

# Manufacturers Record

Industry Construction



\$6.50 per Year  
Single Copy, 20 Cents

Baltimore, Md.  
JUNE 4, 1931

## Work Will Do It



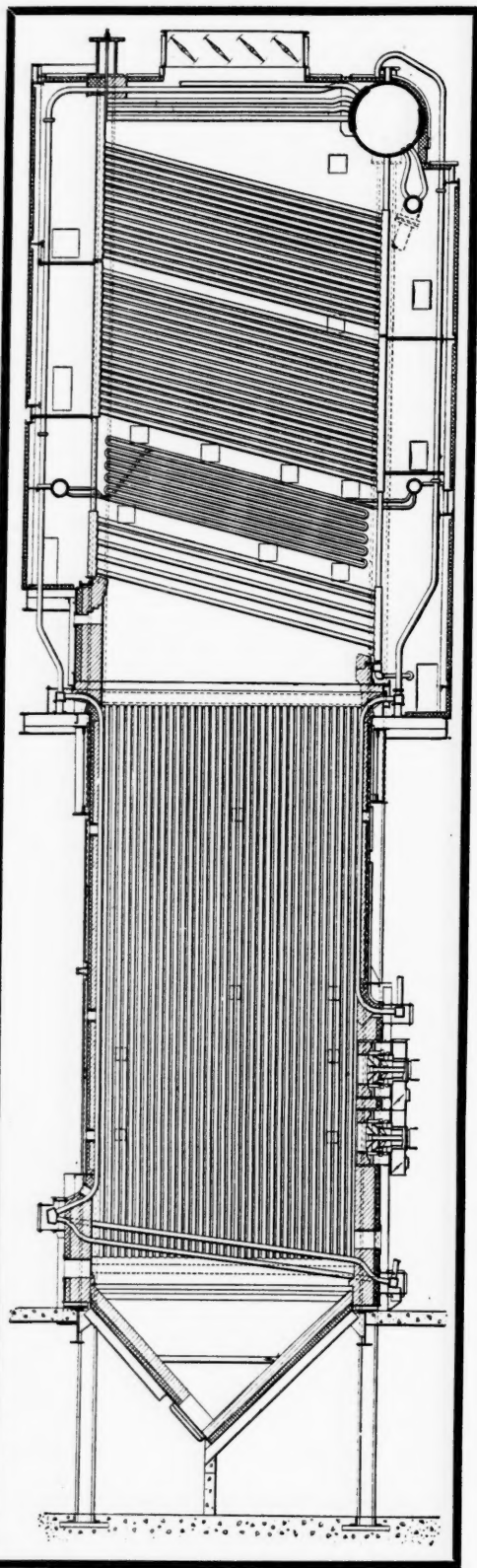
Political panaceas and artificial stimulants to revive business have been found wanting. It is comforting to realize that hard work remains as a course that will bring us out of our difficulties. Theorists have suggested quack remedies and tried to apply them to everyday business problems, but these problems have never been solved and never will be solved by other than sound methods and clear thinking on simple, fundamental lines.

In the meantime, as an encouragement for the future, it is well to point out that far-seeing executives have been introducing economies, reducing costs and equalizing production to demand. Plants are being modernized and obsolete machinery and old unprofitable methods are being replaced. There is coming about a concentration on essentials, with the realization that a higher standard of business and industrial management is being reached. Production has been put upon a sounder basis. It is timely now to suggest constantly increasing sales effort which wisely guided will inevitably produce a greater volume of business.

After all, old fashioned hard work will be responsible for our emergence from the depression of 1930. Not a single theoretical short-cut or economic nostrum has been of any real benefit. Some remedies that were tried, such as the attempt of the government through its Farm Board to artificially stabilize prices on certain farm products, apparently only helped to prolong and deepen the depression. Again theory has run up against the cold hard fact that prices are governed by supply and demand, which cannot be controlled by artificial measures, except perhaps in a limited way for a short time.

The country is again coming to the realization that nothing has yet been found to take the place of work. Work, intelligently directed and properly applied, will bring back and maintain prosperity.

# One Walsh-Weidner Forged Steel Sectional Header Boiler *to serve a* 25,000 kw. Generator



Sectional elevation of the Combustion Engineering steam generating unit at the Duluth Steam Electric Station of the Minnesota Power & Light Company.

The Walsh-Weidner sectional header boiler installed at the Duluth Steam Electric Station of the Minnesota Power & Light Company is believed to be the largest sectional header boiler ever built.

This Walsh-Weidner forged steel sectional header boiler contains 36,300 sq. ft. of heating surface; is of single pass design, 38 sections wide and 43 tubes high, including 3 rows of circulators. The steam pressure is 485 lb. per sq. in. with a total steam temperature of 760 deg. fahr.

The furnace is composed of four water-cooled walls of the C-E bare tube type and pulverized fuel is introduced through six Lopulco horizontal burners.

This installation is an excellent example of the rapidly growing trend of—one boiler per generator.

**COMBUSTION ENGINEERING CORPORATION**  
200 Madison Avenue New York, N. Y.

**BOILERS · AIR PREHEATERS · STOKERS · PULVERIZED FUEL EQUIPMENT · WATER-COOLED FURNACES**

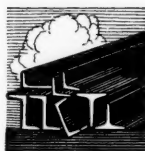


# Making it easy to concentrate purchases and save time, trouble and money

Ten thousand sizes and kinds of steel products—ready to ship

## Beams and Heavy Structural

An unusually large stock of the heavier structural sections including special wide flange structural shapes.



## Channels, Angles, Tees and Zees

A complete range of both structural and bar sizes in all standard sections; also galvanized angles, ship and car channels, etc.

## Rails, Splices, Spikes, Bolts, Etc.

Standard new rails with all accessories—splices, spikes, track bolts, etc.—are in stock for immediate shipment.



## Plates

Steel plates U.M. and sheared; high carbon plates, firebox steel, copper bearing, Armco Ingot Iron and diamond floor plates stocked.

## Stair Stringers, Safety Tread, Etc.

Several types of safety tread for all stairways, inclined passageways, thresholds, etc. Also light weight steel stair stringers.



## Sheets

Stocks include sheets for every purpose—more than twenty-five different kinds from plain black to Allegheny stainless, carried in a full range of sizes.

## Hoops and Bands

Bands, both plain and galvanized, and hoops in both coils and straight lengths are carried in stock in a full range of sizes. Immediate shipment assured.



## Bars—All Shapes and Sizes

Rounds, squares, flats, hexagons, ovals, half-ovals, half-rounds, bevel edge flats, etc., in a full range of sizes and lengths.

## Cold Finished Steel Bars

Flats, rounds, squares and hexagons in various analyses. Triple inspected for accuracy, straightness and finish.



## Extra Wide Cold Finished Flats

Cold finished flats in widths up to 12 inches and from 1/4" to 2" thicknesses are carried in stock for immediate shipment.

Shorten the work of buying your steel and allied products. Make one contact, one order, one checking, one invoice cover current requirements on the various lines. You'll find it saves time and trouble as well as money.

Note the diversity of steel lines shown here. The Ryerson Journal and Stock List will give you complete information including sizes, weights, etc. Make it your guide on steel. Write for the current issue.

## Strip Steel, Flat Wire, Etc.

Stocks include cold rolled strip in dead soft, half hard and hard qualities; also cold rolled flat wire in coils or cut lengths.



## S.A.E. Alloy Steels

Stocks include Hot Rolled S.A.E. 9315, 9320, 9330, 9335, 9340, 9345, 9350, 3115, 3120, 3135, 3140 and also Cold Drawn S.A.E. alloys of many analyses.

## Allegheny Metal

—The unstaining, unrusting, untarnishing nickel chrome alloy that is being adopted for many purposes in all lines of industry. Large and complete stocks.



## Heat Treated Alloy Steel Bars

Various grades of alloy steel bars heat treated and ready for use, in a wide range of sizes, including Nikrome, Ryco, etc.



## Tool Steels

Special grades of tool steel for every shop requirement are carried in stock. Also tool steel sheets, tool holder bits, etc.



## Chain, Grab Hooks, Etc.

Standard grades and sizes of chain; special chain for cranes and steam shovels, grab hooks and similar products can be shipped at once.



## Boiler Tubes and Fittings

Boiler tubes, ferrules, flanges, hangers, lugs, crabs, hand holes, braces, nozzles, patch bolts and other allied products are in stock.

## Welding Rod and Equipment

Special rods adapted to welding the various materials and also equipment for both acetylene and electric arc welding.

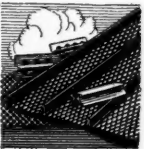


## Rivets, Bolts, Nuts, Washers, Etc.

The range of kinds and sizes carried are too numerous to list. Stocks include practically all types of these and similar products.

## Reinforcing Bars and Accessories

Concrete reinforcing bars are cut, bent and delivered as needed, including all accessories, caisson rings, etc.

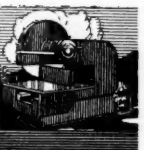
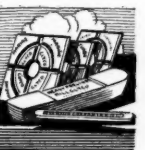


## Steel Building Products

Metal lath, steel stucco base, corner bead, picture mold, base, screed, etc., round out our service to the contractor and builder.

## Babbitt Metal and Solder

Five grades of Glyco Babbitt meet all bearing metal requirements. "Ryerson Guaranteed" solder is also stocked.



## Machinery and Tools

Ryerson Machinery Division can meet all your requirements for machine tools, metal working equipment and small tools. Write for descriptive literature.

## JOSEPH T. RYERSON & SON INC.

Plants: Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, Boston, Philadelphia, Jersey City

Representation in: Minneapolis, Tulsa, Rockford, Kansas City, Houston, Dallas, Newark, New York, Denver, Los Angeles, San Francisco

# RYERSON

## STEEL - SERVICE

# BLISS

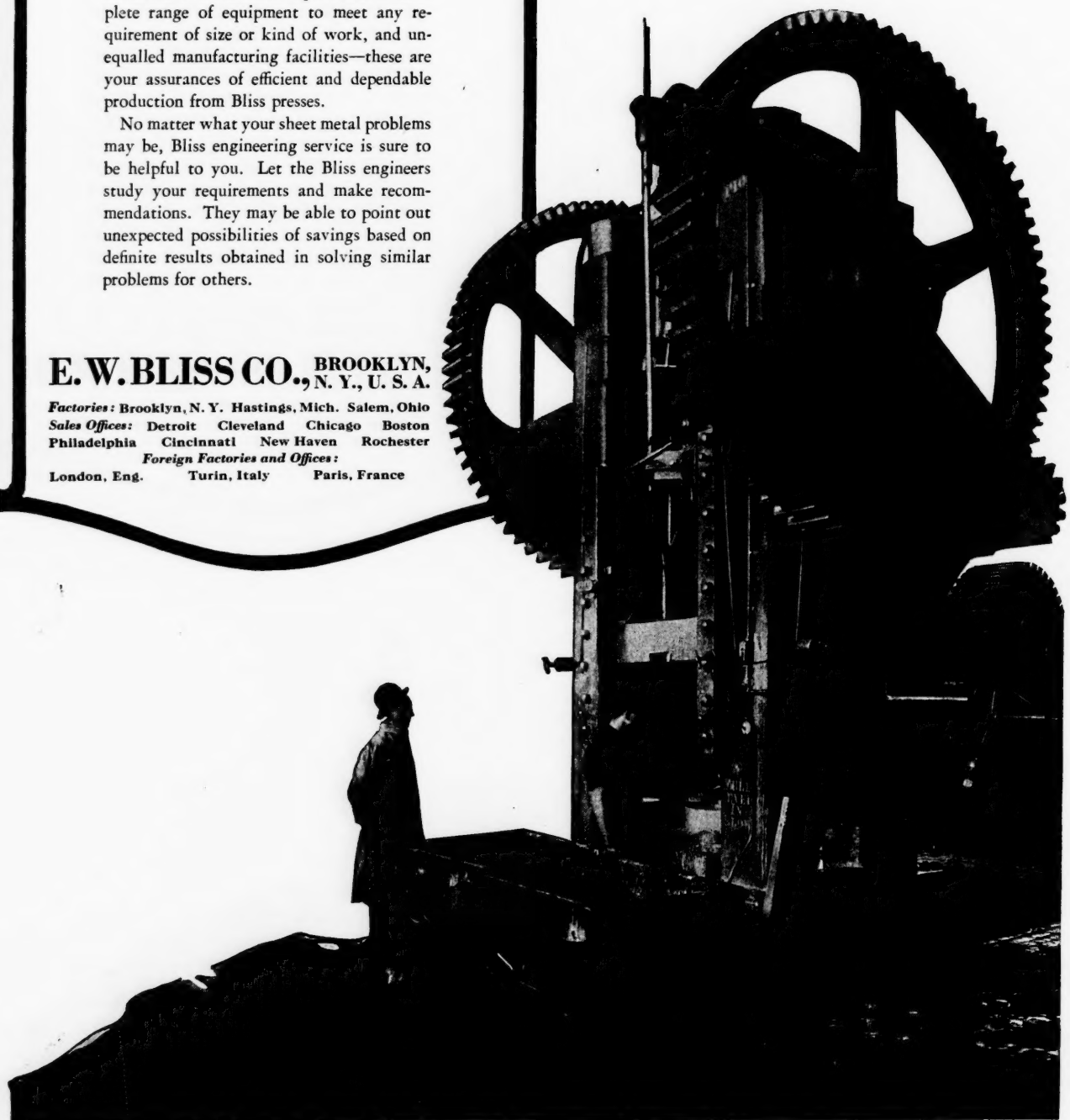
**for speed and economy  
in sheet metal operations**

SEVENTY years of experience in designing and building machinery for every conceivable sheet metal operation, a complete range of equipment to meet any requirement of size or kind of work, and unequalled manufacturing facilities—these are your assurances of efficient and dependable production from Bliss presses.

No matter what your sheet metal problems may be, Bliss engineering service is sure to be helpful to you. Let the Bliss engineers study your requirements and make recommendations. They may be able to point out unexpected possibilities of savings based on definite results obtained in solving similar problems for others.

**E. W. BLISS CO., BROOKLYN,  
N. Y., U. S. A.**

**Factories:** Brooklyn, N. Y. Hastings, Mich. Salem, Ohio  
**Sales Offices:** Detroit Cleveland Chicago Boston  
Philadelphia Cincinnati New Haven Rochester  
**Foreign Factories and Offices:**  
London, Eng. Turin, Italy Paris, France

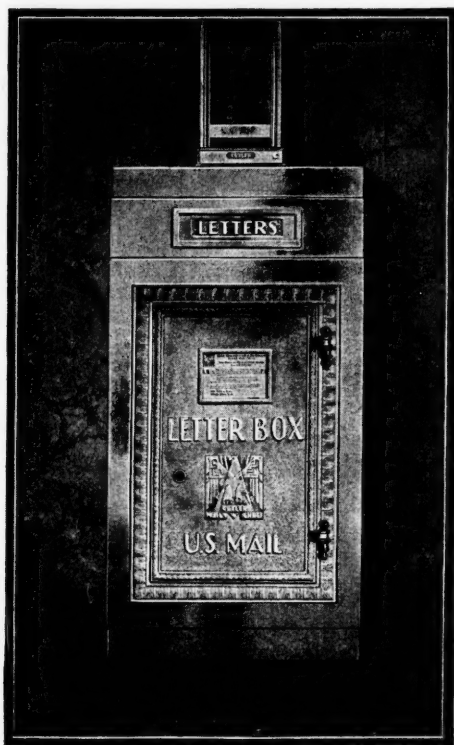




# THE CUTLER MAIL CHUTE

The achievement of fifty years' experience in meeting the exacting demands of Post Office and Public use. Manufactured in our own Factory—built, equipped and operated for this purpose exclusively. The only such Factory in the world.

The business is limited and restricted by stringent Postal Regulations, but centered in one establishment it is possible to maintain the organization necessary to give to our customers, the public, and the Post Office Department a quality of work and service satisfactory to them, and to us.



Stock Design 4083  
Aluminum

This also justifies the employment of specially designed machinery by which the highest standard of quality is maintained, and the cost of production reduced to the lowest possible level.

Buildings in which large quantities of mail originate are provided with two or more Mail Chutes usually installed in twin form. Recent refinements in the twin construction have reduced the space occupied and greatly improved its appearance.

The Mail Box, which is an integral part of the equipment is furnished in a variety of forms, either from stock or special designs. By the use in part, of stock models and patterns special Architectural requirements

can be met at moderate cost. Expert advice, full information and estimates will be gladly given on request.

## CUTLER MAIL CHUTE COMPANY

J. WARREN CUTLER, President

GENERAL OFFICES AND FACTORY, ROCHESTER, N. Y.



*Horton radial-cone 1,000,000  
gallon elevated steel tank  
at Sandusky, Ohio*

## The Radial-cone Tank for Large Sizes

**T**HE radial-cone type of bottom enables us to build large elevated water tanks with capacities of a million gallons or more with a total variation in water level of only 25 or 30 feet.

Minimum variation in pressure is always desirable, regardless of the size of tank. It reduces pumping costs, for pumps work against a lower average head than with deeper tanks. A uniform pressure is maintained throughout the distribution system.

The use of elevated storage in a waterworks system also permits

pumping equipment to be operated at a uniform rate. The surplus pumpage which flows into the tank at off peak periods flows back into the mains to meet the heavy demand. In this way the efficiency of pumping equipment and mains is often increased and the cost of power decreased.

Most every municipality, from the small village to our biggest city, can use elevated storage tanks in its waterworks system to advantage. We will appreciate the opportunity of submitting estimates without obligation.

Comparative Pressures and Pumping Rates in Sandusky Waterworks System

	Minimum	Maximum
Pressure in Mains July 19 BEFORE tank installed ....	44 lbs.	65 lbs.
Pressure in Mains Dec. 2 AFTER tank installed ....	58 lbs.	63 lbs.
Pumping Rate July 16 BEFORE tank installed .....	32 M gph	70 M gph
Pumping Rate Nov. 8 AFTER tank installed .....	23 M gph	42 M gph

B-223

## CHICAGO BRIDGE & IRON WORKS

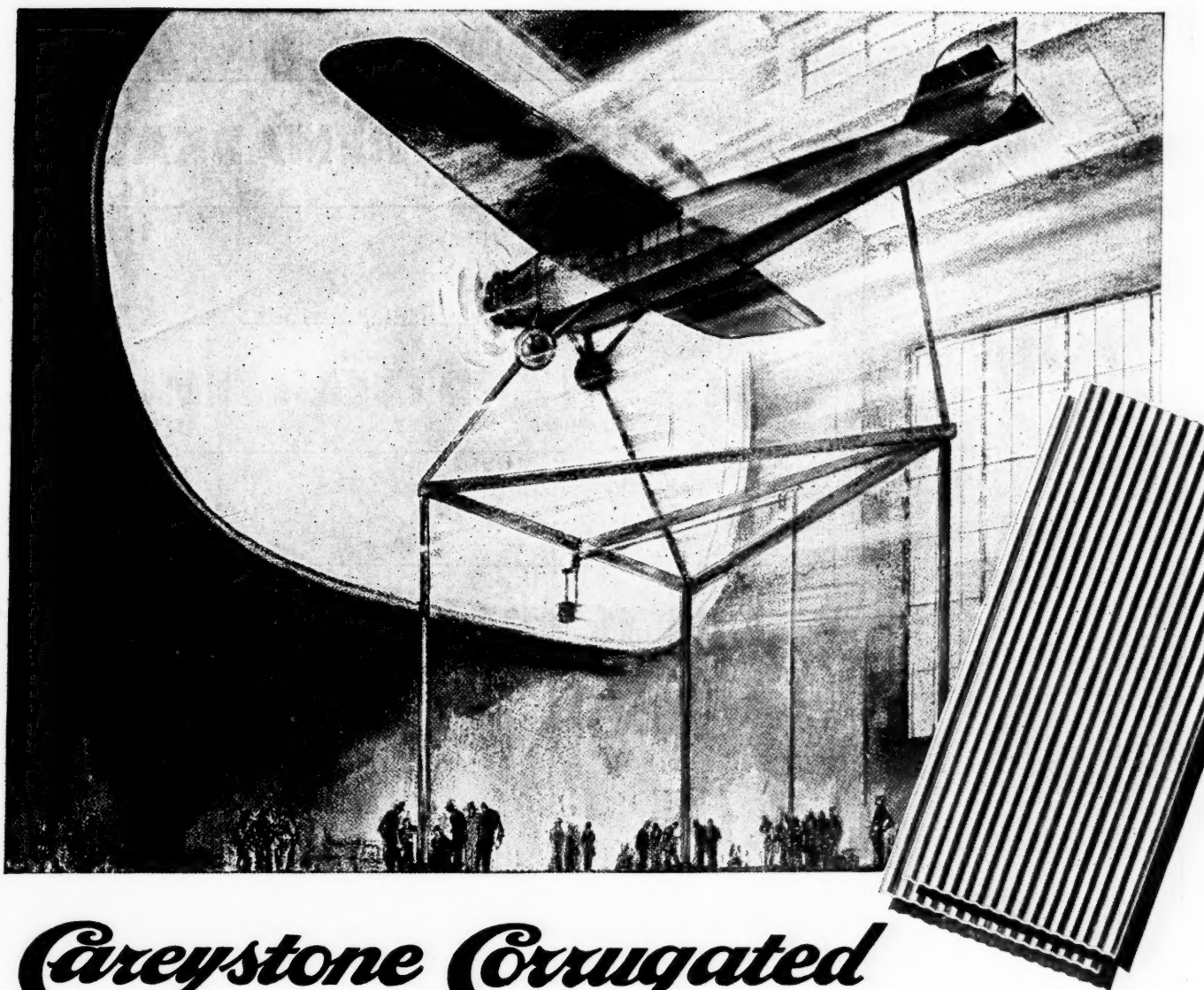
Birmingham.....1530 Fifth St. North  
Dallas.....1208 Burt Bldg.  
Houston.....1114 Electric Bldg.  
Tulsa.....2411 Exchange Bank Bldg.

New York.....3113 Hudson Terminal Bldg.  
Cleveland.....2216 Midland Bank Bldg.  
Chicago.....2106 Old Colony Bldg.  
San Francisco.....1040 Rialto Bldg.

Philadelphia.....2619 "1616" Walnut St. Bldg.  
Detroit.....1510 Lafayette Bldg.  
Boston.....1510 Consolidated Gas Bldg.  
Havana.....Apartado 2507

# HORTON TANKS





## *Careystone Corrugated* at Langley Field, Virginia

Imagine fans of 8,000 h. p. creating a 110-mile gale in the Langley Field Wind Tunnel of the National Advisory Committee on Aeronautics. Necessarily the sides of this tunnel must be made of a material which will withstand such unusual stress. Also this material should be rust-proof, non-combustible and rot-proof.

Because Careystone Corrugated combines all these qualities, it was selected for this important

structure. Made of Asbestos and Portland Cement, Careystone Corrugated contains nothing to burn, rust or rot. Low in first cost, and requiring no painting or other renewal treatment, it is the ideal material for roofing and siding all types of industrial buildings. Sheets are supplied cut to exact size, insuring rapid and low-cost application.

Our engineering department will submit sketches and complete data for any proposed construction.

THE PHILIP CAREY COMPANY :: Lockland, Cincinnati, Ohio  
Branches in Principal Cities

BUILT-UP ROOFS  
ASPHALT PRODUCTS  
ELASTITE EXPANSION JOINT  
WATERPROOFINGS  
ROOF PAINTS

**Carey**  
PRODUCTS  
EST. 1875


HEAT INSULATIONS  
ASBESTOS MATERIALS  
CAREYSTONE CORRUGATED SIDING  
ASFALTSlate SHINGLES  
BUILDING PAPERS





**SURFACES REMARKABLY**



**SMOOTH AND CLEAN TELL YOU**



**THAT THIS IS THE PIPE OF TODAY**



**F**OR the skyscraper—for the factory—for the home ... this clean, smooth pipe fills, in every way, the demands of modern service. Free from troublesome mill-scale (one of the principal causes of "pitting") NATIONAL Scale Free Pipe means that corrosion is reduced, annoyances due to loose scale are eliminated and a higher order of service is assured. For galvanizing and other protective coatings this exceptionally smooth base is ideal. All in all, longer life with greater economy is the net practical result. Whether you buy, specify or install pipe for skyscraper, factory or home, be sure to insist on the pipe of today—NATIONAL Scale Free—

*America's Standard Wrought Pipe*

**NATIONAL TUBE COMPANY ♦ Pittsburgh, Pa.**  
Subsidiary of United States Steel Corporation

**NATIONAL**



**SCALE FREE PIPE**

*S P E L L E R I Z E D*



# In CINCINNATI . . . a 76-year-old cast iron main is giving A-1 Service



Photo by Fairchild Aerial Surveys, Inc.

● Away back in 1855, the Cincinnati Water Works laid a 20-inch cast iron line under Fourth Street. Today—after 76 years—that identical cast iron line is still in service and is in good condition . . . ¶ From prominent cities in all parts of the country come testimonials to cast iron pipe's long life and low maintenance cost. In Philadelphia, in Richmond, in St. Louis, original cast iron mains are still on the job after 100 years or more . . . ¶ The reason for the long life of cast iron pipe is its effective resistance to rust. Cast iron is the one ferrous metal for water and gas mains that will not disintegrate from rust. This characteristic makes cast iron pipe the most practical for underground mains, for rust will not destroy it . . . ¶ The Cast Iron Pipe Research Association welcomes requests from engineers and city officials for information regarding cast iron pipe for water and gas mains as well as for sewers, culverts and other needs. Address your inquiries to The Cast Iron Pipe Research Association, Thomas F. Wolfe, Research Engineer, 309 People's Gas Building, Chicago, Ill.

Cast iron pipe bearing the "Q-check" trademark is obtainable from the following leading pipe founders: Alabama Pipe Company, Anniston, Ala.; American Cast Iron Pipe Company, Birmingham, Ala.; James B. Clow & Sons, 219 N. Talman Avenue, Chicago, Ill.; Donaldson Iron Company, Emaus, Pa.; Glamorgan Pipe and Foundry Company, Lynchburg, Va.; Lynchburg Foundry Company, Lynchburg, Va.; National Cast Iron Pipe Company, Birmingham, Ala.; United States Pipe and Foundry Company, Burlington, N. J.; Warren Foundry and Pipe Corporation, 11 Broadway, New York.



The "Q-check" symbol shown above has been adopted as the trademark of The Cast Iron Pipe Research Association.

## CAST IRON PIPE

# ONLY SUCCESS

**KNOWS**  
**how many**  
**relatives**  
**it has!**

**S**TAY UNKNOWN, and the circle of those who claim relationship with you is small. Become successful—the mails and wires are crowded with messages from unknown kinfolk of doubtful standing. Your every action is closely scanned and often emulated by those who would gain from your achievements, who seek a share in your success.

As it is with man, so it is with a product. Because genuine Puddled Iron has made the word "iron" a synonym for *endurance*—because genuine Puddled Iron has established a record for superlative service—the markets are crowded with substitutes claiming to perform the same service equally well... claiming to be "just as good" as the original.

While metal after metal, coming on the market, has tried to cloak itself in the mantle of iron, yet, since the invention of the iron puddling process in 1780, there has been only *one* kind of genuine Puddled Iron—the kind that Reading makes today, as it has for 83 years.



Today, you can buy pipe made of this "iron" or that "iron." But when you want the long life, lightness and strength that only genuine Puddled Iron Pipe gives, look for the Reading *indented* spiral on every length of pipe you buy. Then you will know you are getting the *same kind* of pipe that has established iron's unfaltering service in the minds of men. Send for our free booklet "The Low-down on the Pipe Business." It will give you valuable information about the installation and use of Reading genuine Puddled Iron Pipe.

*For information and quotations address*

## **READING IRON COMPANY** **READING, PENNSYLVANIA**

Atlanta, Baltimore, Boston, Buffalo, Pittsburgh, Cincinnati, New York, Detroit, Houston, St. Louis, San Francisco, Seattle, Chicago, Philadelphia, Tulsa, Los Angeles, Kansas City.

READING PRODUCTS: Pipe • Tubing • Casing • Nipples  
Couplings • Bar Iron • Blooms • Cut Nails • Boiler Tubes



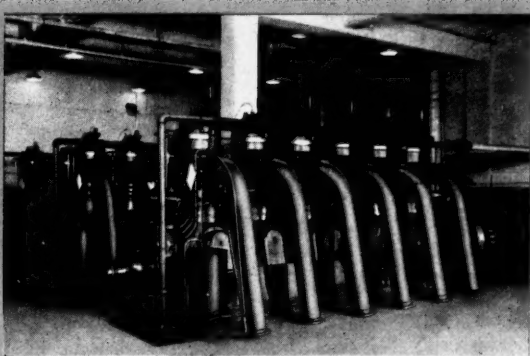
# **READING PUDDLED IRON PIPE**

*Science and Invention Have Never Found a Satisfactory Substitute for Genuine Puddled Iron*





*The Foote Gear Works of Chicago effected marked savings by the installation of this 120 hp. F-M Diesel.*



*These three 360 hp. F-M Diesel electric generating units supply low cost power for the Gales Lumber Co. plant in the very heart of metropolitan New York.*

## No "City Limits" for Diesel Economy

The value of the Diesel engine as a producer of dependable, low cost power on far-flung municipal and industrial projects is common knowledge. It is, perhaps, less generally known that the Diesel can *and is* cutting power costs right in the heart of metropolitan centers. In towns and cities where rates are considered most favorable, the Diesel is showing savings that are actually sufficient to pay for the engines in a short time.

These statements should be—and will be—challenged by men who are willing to be shown that power costs need not be regarded as fixed at present levels simply because a plant is located within the limits of towns or cities

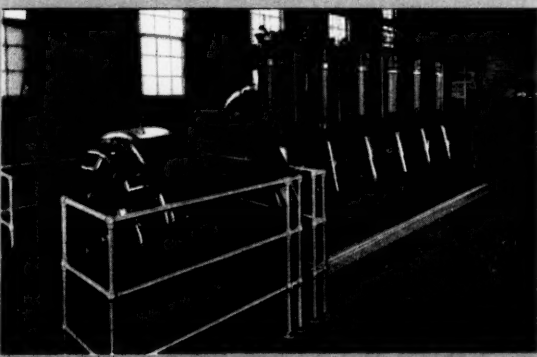
where electrical rates are low. Surely the savings-profits of Diesel power would be welcome in any plant—especially at this time when profit increase depends so largely upon lowered production costs.

It will cost nothing to learn—in dollars and cents—just how much Diesel power can save in *your* plant. Fairbanks-Morse engineers will give you this information after they have made a power survey of your plant. Diesel savings can be determined so definitely that Fairbanks-Morse offers a payment plan whereby the *savings* become the payments on the engine. Will you let us present facts that may uncover a new source of profit for you?

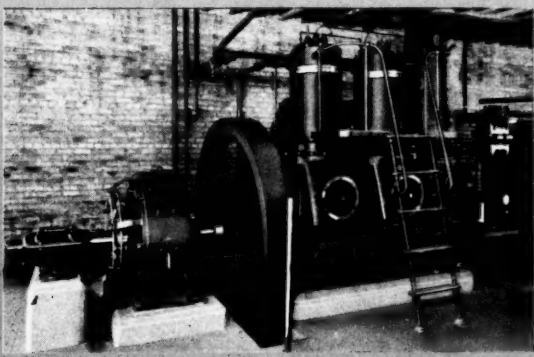
FAIRBANKS, MORSE & CO., 900 South Wabash Avenue, Chicago

*32 branches at your service throughout the United States*

*Materially reduced operating costs were effected with the installation of this 360 hp. F-M Diesel generating unit in the plant of Chappel Bros., at Rockford, Ill.*



*\$4,000 a year was saved by installing this 120 hp. F-M Diesel in the plant of the Mitchell Battery Co., at St. Paul, Minn.*



# FAIRBANKS-MORSE

## DIESEL ENGINES



FOR PUMPING AND WEIGHING EQUIPMENT

# All Ball Bearing Motors are NOT Alike . . .

Today, ball bearing motors are made by practically every motor manufacturer. But this does not mean that all ball bearing motors are alike. The invaluable experience gained in eighteen years of painstaking field research is reflected in the outstanding performance that is responsible for F-M leadership in the ball bearing motor field today.



*Fairbanks-Morse Type Q Ball Bearing Motor.*

*Fairbanks-Morse Type QC Ball Bearing Motor. Totally enclosed. Fan cooled. Needs no piping. Widely used on drives where dust, dirt and metallic particles are encountered.*

Fairbanks-Morse superiority can be proved by making a comparative inspection of F-M motors and other motors. Check construction details point by point. Study the advantages of F-M *sealed* ball bearing construction which incorporates *the highest priced ball bearings in the world*. Then you will understand why users of F-M Ball

Bearing Motors specify them year after year for service that requires maximum dependability and lowest overall operating cost.

It will pay you to get the facts. Let us send literature or let an F-M engineer discuss the advantages of these motors as they apply to your particular requirements. There is no obligation.

FAIRBANKS, MORSE & CO.

900 S. Wabash Ave., Chicago

32 branches at your service throughout the United States



## FAIRBANKS-MORSE MOTORS

EOA40.8



# THE ROCK DRILLS THAT BROKE DOWN BECAUSE THEIR BOLTS FAILED



## A problem in fatigue

## and incalculable stresses solved by R B & W Engineering Service

A construction machinery corporation, the titan in its field, sent us, over a period of time, a series of orders for bolts—each new order designating higher tensile strength material. Our inquiry developed the fact that the bolts were used in pneumatic rock drills, and were failing in service from fatigue and incalculable stresses.

The R B & W Engineering Service took up the problem. Our metallurgist, in co-operation with our customer's metallurgical de-

partment, selected a metal and a heat treatment for the rock drill bolting material which provided the necessary strength and ductility to stand up under the extraordinary stress conditions that prevailed when the product was in use.

The selection of satis-

factory bolting material involves much more than size, fit, finish and price. If you are having bolt trouble, or would like to know whether a new plan would lessen

costs and increase efficiency, write the R B & W Engineering Service. No obligation.

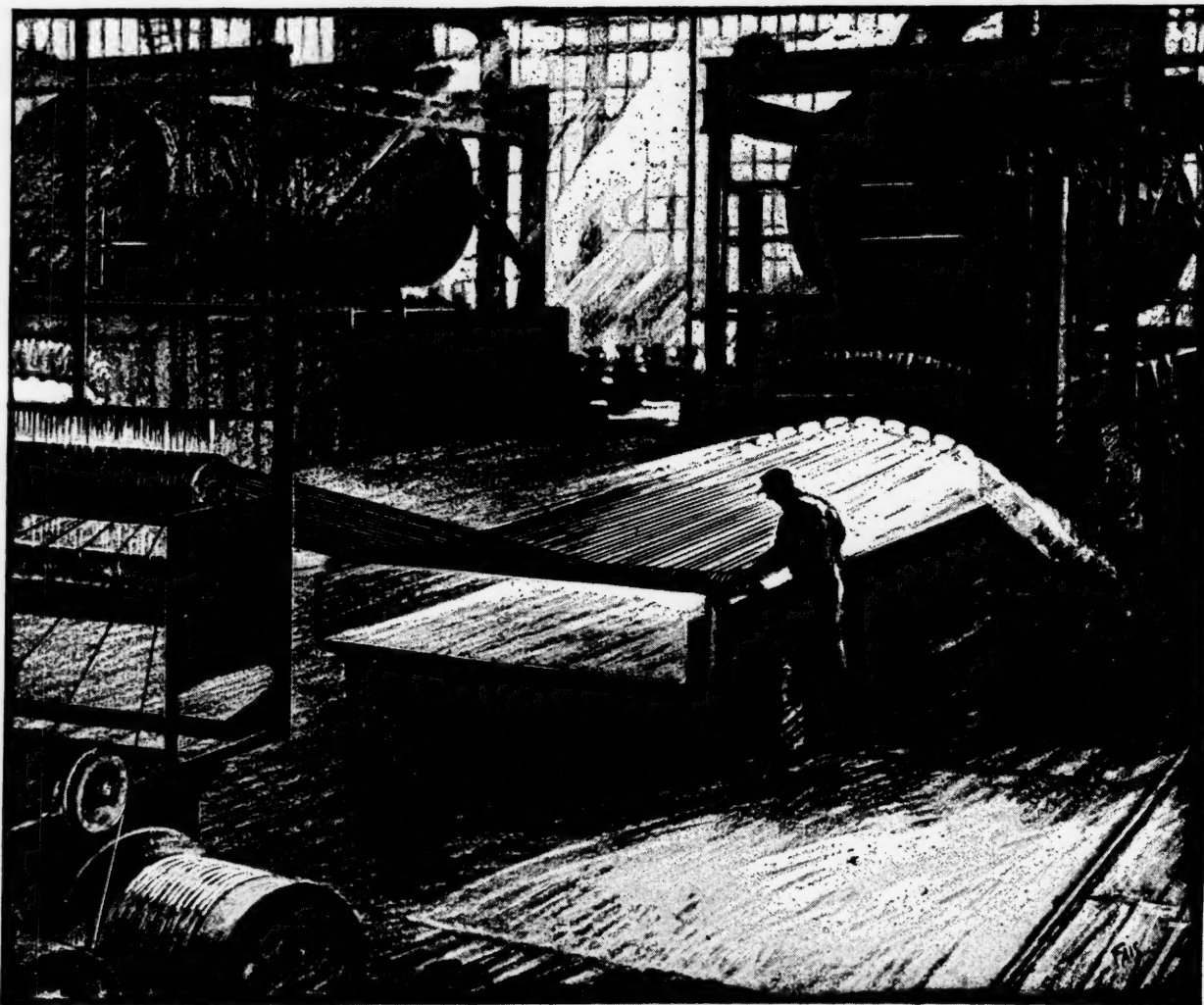


## RUSSELL, BURDSALL & WARD BOLT & NUT CO.

PORT CHESTER, N. Y.    ROCK FALLS, ILL.    CORAOPOLIS, PA.

Sales offices at Philadelphia, Detroit, Chicago, San Francisco, Los Angeles, Seattle, Portland, Ore.





No. 9 of a series of advertisements on "How Superlative Quality is Built into Roebling Wire Rope"

## Painstaking Care is the Watchword

When it comes to making wire of exceptionally great strength and stamina, such as required for Roebling "Blue Center" Steel Wire Rope, ordinary production methods won't do. Skill of the highest order is called for. Painstaking care must be the watchword.

So, in this Roebling patenting shop, the most exacting of standards prevail. Years of experience govern every move and haste is outlawed. Furnace temperatures, the rate at which the wire travels through the furnaces—all elements of the patent-

ing process—have been established through decades of research and development.

Patenting, at Roebling, is a highly developed art—one that contributes much to the great strength and stamina for which Roebling "Blue Center" Steel Wire Rope is noted. Incidentally, the Roebling patenting shop is one of the largest and most modern of its kind in the country.

JOHN A. ROEBLING'S SONS COMPANY  
TRENTON, N. J. *Branches in Principal Cities*

WIRE · WIRE ROPE · WELDING WIRE · FLAT WIRE · COPPER AND INSULATED WIRES AND CABLES · WIRE CLOTH AND WIRE NETTING

*Export Dept.—New York, N. Y.*

# ROEBLING



"BLUE CENTER"  
STEEL

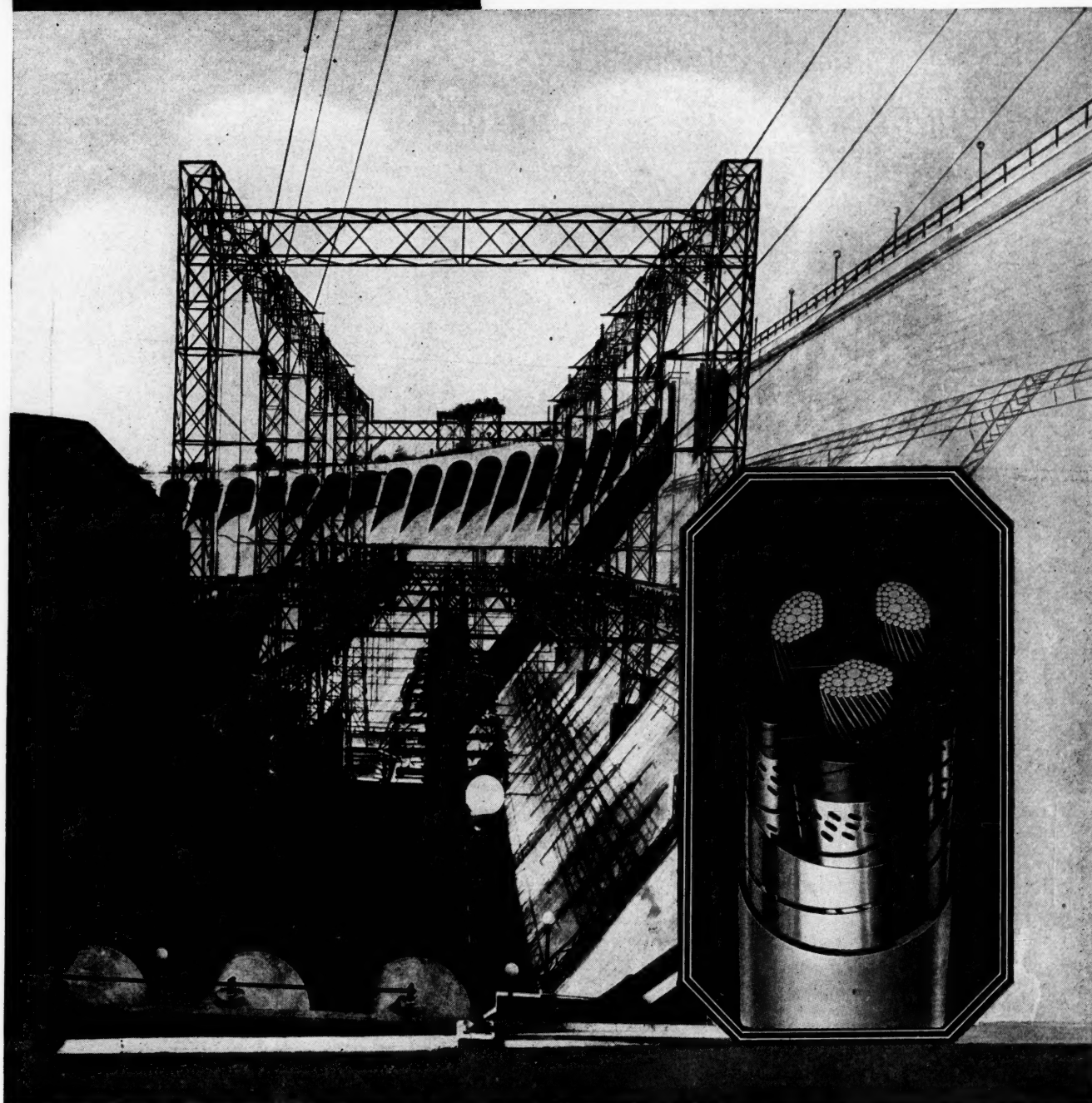
# WIRE ROPE

AMERICAN STEEL &amp; WIRE COMPANY

# POWER CABLES

## For Greatest "Over-all" Efficiency

In the case of power companies, the dependable transmission of current is entrusted to power cables produced by the American Steel & Wire Company. This is in keeping with the almost universal trend of industry to choose wire and cables of proved performance—and from a reliable source of supply. Today—write for complete details of our ability to serve you—both from a product and engineering standpoint.

**AMERICAN STEEL & WIRE COMPANY**

208 S. La Salle Street, Chicago

And All Principal Cities

**SUBSIDIARY OF UNITED STATES STEEL CORPORATION**

PRINCIPAL SUBSIDIARY MANUFACTURING COMPANIES

AMERICAN BRIDGE COMPANY

AMERICAN SHEET AND TIN PLATE COMPANY

AMERICAN STEEL AND WIRE COMPANY

COLUMBIA STEEL COMPANY

COLUMBIA STEEL COMPANY

CYCLONE FENCE COMPANY

FEDERAL SHIPBUILDING AND DRY DOCK COMPANY

ILLINOIS STEEL COMPANY

MINNESOTA STEEL COMPANY

NATIONAL TUBE COMPANY

OIL WELL SUPPLY COMPANY

THE LORAIN STEEL COMPANY

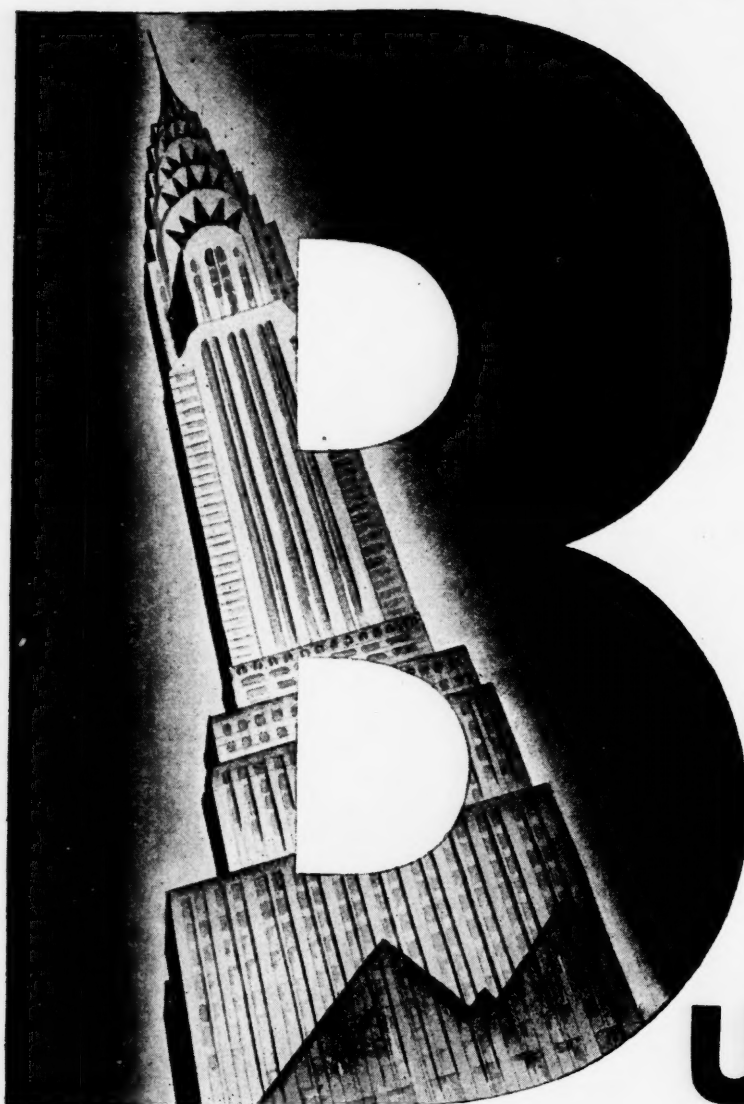
TENNESSEE COAL, IRON &amp; R. I. COMPANY

UNIVERSAL ATLAS CEMENT COMPANY

General Sales Office—Columbia Steel Company, Room Building, San Francisco, Calif.

Export Distributors—United States Steel Products Company, 30 Church Street, New York, N. Y.

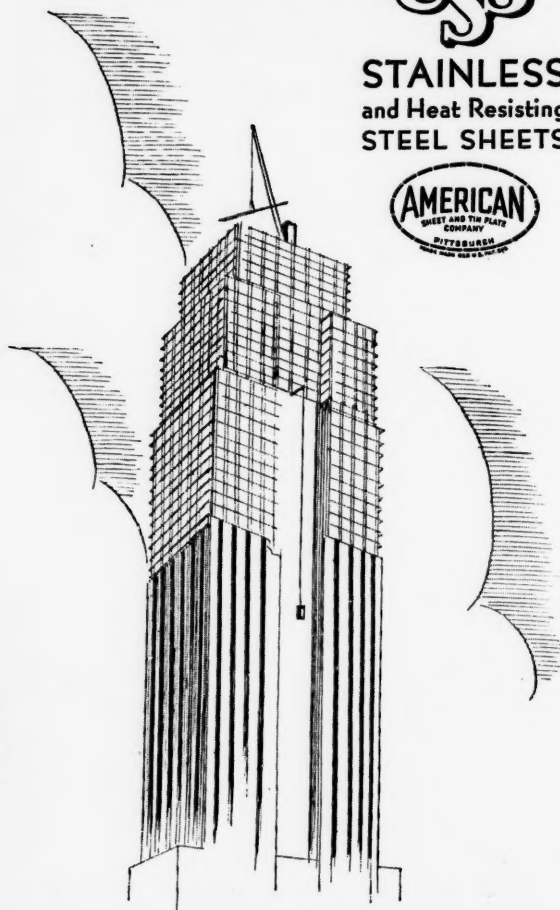
# STEEL SHEETS FOR EVERY PURPOSE



Write for information on...

**USS**

**STAINLESS  
and Heat Resisting  
STEEL SHEETS**



# BUILDING

**S**ATISFACTORY SERVICE—beginning in the metallurgical laboratory and ending with unqualified approval in the customer's shop, makes AMERICAN products a most reliable and satisfactory source of supply. Our sales and technical forces will be pleased to serve you.

In every field of construction, sheet metal plays an important part. By specifying AMERICAN Sheets and Tin Plates, you are sure of securing high quality products that have an earned reputation for excellence and endurance—and have set a standard for competition to meet.

Black and Galvanized Sheets, Keystone Rust-Resisting Copper Steel Sheets, Special Sheets, Tin and Terne Plates



## American Sheet and Tin Plate Company

GENERAL OFFICES: Frick Building, PITTSBURGH, PA.

SUBSIDIARY OF UNITED STATES STEEL CORPORATION

AMERICAN BRIDGE COMPANY  
AMERICAN SHEET AND TIN PLATE COMPANY  
AMERICAN STEEL AND WIRE COMPANY  
CARNEGIE STEEL COMPANY

PRINCIPAL SUBSIDIARY  
COLUMBIA STEEL COMPANY  
CYCLONE FENCE COMPANY  
ILLINOIS STEEL COMPANY

Pacific Coast Distributors—Columbia Steel Company, Russ Bldg., San Francisco, Calif.



MANUFACTURING COMPANIES:  
FEDERAL SHIPB'LDG. & DRY DOCK CO.  
MINNESOTA STEEL COMPANY  
NATIONAL TUBE COMPANY

OIL WELL SUPPLY COMPANY  
THE LORAIN STEEL COMPANY  
TENNESSEE COAL, IRON & RAILROAD CO.  
UNIVERSAL ATLAS CEMENT COMPANY

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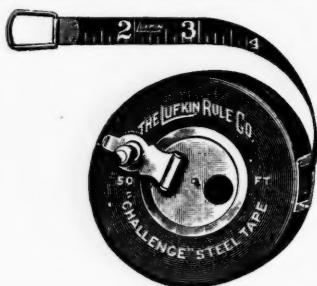
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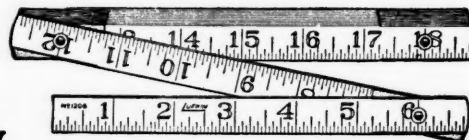
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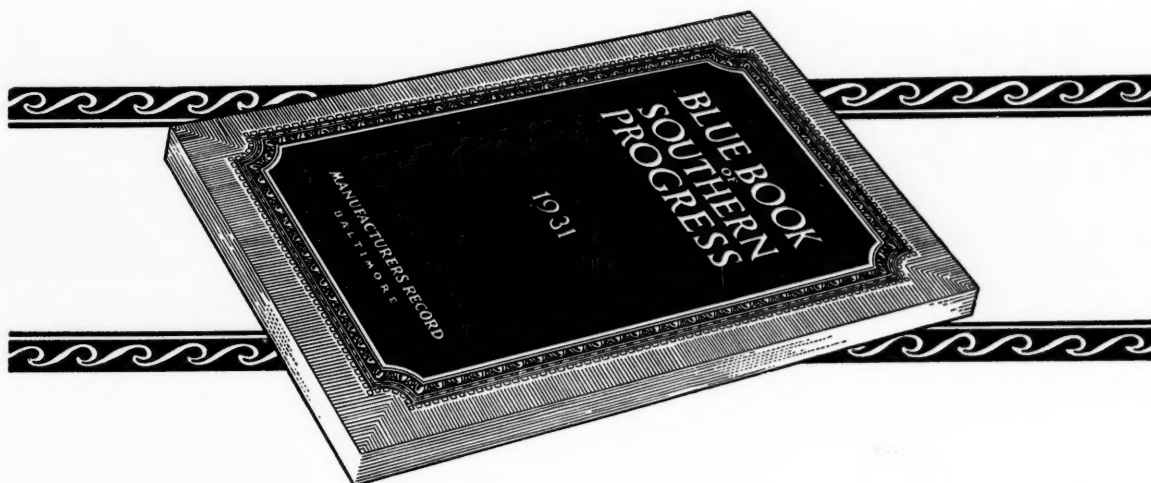
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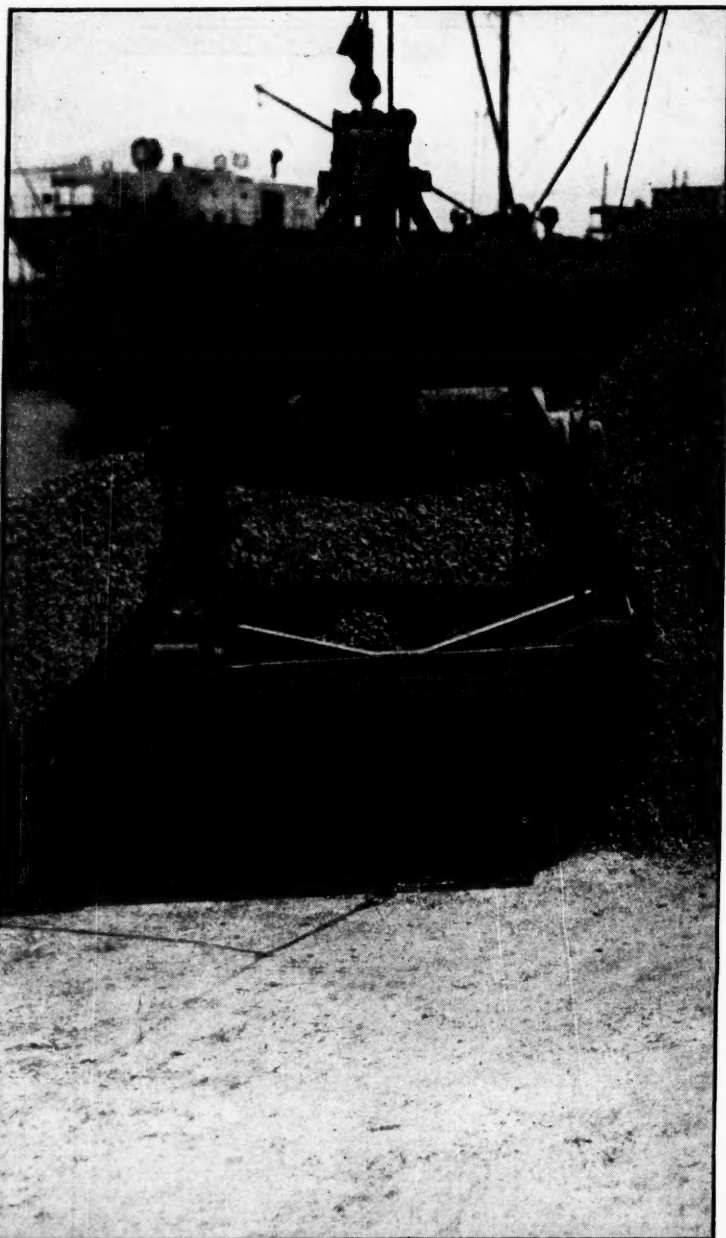
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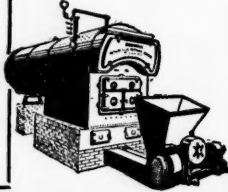
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\$6.50 a Year }

## Cotton!

**T**HIS is National Cotton Week. Throughout the country, and especially in the Southern States, cotton is receiving perhaps its greatest acclaim. This is the result of organized effort to popularize cotton, to extend its present uses and develop new uses. The success of the movement is a credit to the power of constructive publicity. The cotton industry, however, to get lasting benefit from the wave of enthusiasm engendered by more than 11,000 local cotton celebrations and displays throughout the country, must persistently and consistently make known the advantages of cotton and its possibilities not only for wearing apparel and household uses, but for industrial purposes. Progress already has been made in this direction and the pioneering work of creating new uses for cotton offers a promising field for further research to extend its utilization in manufacturing and in the construction industry.

With the South producing more than half the world's raw cotton and 67 per cent of the domestic cotton goods output, it is necessarily more concerned than any other region of the country with the continued prosperity of the cotton industry. It is estimated that 10,000,000 people in the South are directly or indirectly dependent on cotton. The largest section of this group, of course, is the Southern cotton grower and tenant farmer. Some 45,000,000 acres, or about one-third of the South's crop area, are devoted to cotton growing. The average production of the last five years was 14,700,000 bales, with an average value including seed of \$1,275,000,000. Approximately \$2,000,000,000 is invested in the farm property which is necessary to produce this new wealth each year. The total amount invested in the Southern cotton industry, including farm property, cotton mills, cotton gins, compresses and cottonseed oil mills, is well over \$3,000,000,000.

In the five-year period ending 1930, the average output of the cottonseed oil mills of the South was valued at \$245,000,000.

In Southern cotton manufacturing alone the num-

ber of wage earners in 1929 was around 274,000. The value of the production of cotton mills in 11 Southern states in 1929 was over \$967,000,000, or about 64 per cent of the country's total output.

SOUTHERN COTTON MANUFACTURES, 1929

States	Cost of Materials, Fuel and Purchased Power	Value of Products	Value Added by Manufacture
Alabama .....	\$66,349,000	\$104,292,000	\$37,943,000
Arkansas .....	1,572,000	2,242,000	670,000
Georgia .....	137,843,000	212,852,000	75,009,000
Kentucky .....	2,850,000	4,083,000	1,233,000
Maryland .....	5,078,000	8,447,000	3,369,000
Mississippi .....	3,776,000	6,594,000	2,818,000
North Carolina .....	192,859,000	317,005,000	124,146,000
South Carolina .....	146,740,000	241,436,000	94,696,000
Tennessee .....	16,820,000	26,174,000	9,354,000
Texas .....	11,476,000	18,862,000	7,386,000
Virginia .....	13,459,000	25,038,000	11,579,000
Total .....	\$598,822,000	\$967,025,000	\$368,203,000
United States .....	\$902,122,000	\$1,527,563,000	\$625,441,000

Moreover, the rest of the country is concerned with the ability of the South to market its cotton at profitable prices. For years our cotton exports have led other commodities and have been an important factor in maintaining a favorable balance of about \$500,000,000 in our world trade each year. As Walter Parker, economic counsel of the American Shippers' Association, points out, not only has cotton played an enormously important part in the foreign trade of the United States, but in addition it has given employment to farmers, manufacturers, merchants and bankers. Property values in the cotton-growing states have been based largely on the cotton-growing industry and the prosperity of general business in the cotton belt reflects prosperous prices for its cotton, and profitable prices for cotton mean heavy sales of the products of Northern factories to Southern consumers. Less than half of the South's normal 14,000,000-bale cotton crop is consumed by the United States; more than 7,000,000 bales annually are sold abroad in competition with cotton produced in some 60 other countries.

The extent of this foreign trade and what it means to the South and the country at large is emphasized by a comparison of the total amount of money brought



into this country from cotton exports over a term of years. During the past five years the aggregate value of cotton exports amounted to \$3,828,000,000. This is more than the value of all the gold produced in the world since 1921.

VALUE AMERICAN COTTON CROPS, COTTON EXPORTS, AND THE WORLD'S GOLD AND SILVER PRODUCTION, 1921-1930

Year	Value Cotton Including Seed	Value Raw Cotton Exports	Gold Value	Silver Commercial Value
1921.....	\$780,190,000	\$534,242,000	\$330,232,000	\$108,110,000
1922.....	1,336,166,000	673,250,000	319,420,000	142,536,000
1923.....	1,761,865,000	807,103,000	367,764,000	172,275,000
1924.....	1,747,104,000	950,581,000	393,405,000	178,310,000
1925.....	1,684,392,000	1,059,751,000	393,301,000	172,498,000
1926.....	1,154,856,000	814,429,000	399,982,000	159,568,000
1927.....	1,476,845,000	826,306,000	401,678,000	144,947,000
1928.....	1,528,676,000	920,008,000	408,385,000	151,214,000
1929.....	1,417,710,000	770,830,000	403,033,000	140,360,000
1930.....	810,833,000	496,737,000	400,000,000	110,000,000
Total .....	\$13,698,637,000	\$7,853,237,000	\$3,817,200,000	\$1,479,818,000

Cotton is the hope and at times the despair of the South. It has been contended by some that the South would have been better off had it never grown a bale of cotton. Such comment is often heard when the South's cotton industry is at a low ebb. It is not the fault of cotton, a staple which through the ages has been in demand and its use greatly extended; the fault lies in the American system of cotton farming, which makes cotton the principal business of some of the cotton-growing regions of the South. One-crop farming is detrimental to any section whether the practice be applied to cotton, grain or any other crop.

Harvey C. Couch, president of the Arkansas Power & Light Co., summed up the whole agricultural situation when he said that "the man who farms to make money will go broke unless he is a super business man; while the man who farms to make a living will make money." Diversified farming—producing food and feed for home consumption and selling the surplus—enabled the farmers who followed this practice to make a profit, while the one-crop farmer has been pushed deeper into debt. Following this line of thought Melvin A. Traylor, president of the First National Bank of Chicago, commenting on the American agricultural situation before the International Chamber of Commerce meeting, held recently in Washington, said:

"When we find that on about 20 per cent of our farms there is not a milk cow or a chicken, that on more than 30 per cent there is not a hog and on about 90 per cent not a sheep, when we know that on many of our large farms no gardens are kept and almost every article of food is purchased at the store, we are forced to the conclusion that the farmer, by and large, is not farming as he should. As far as possible every farmer should produce his own milk and dairy products, his own meat and his own poultry, raise his own garden truck and can fruit and vegetables for winter use.

"Until he obtains from his farm every item for personal consumption which is humanly possible for him to produce he has not done his job properly. Pigs and chickens and cows are worth more to the individual farmer than all the government relief measures that may possibly be devised."

Through the prevailing low prices and reduced demand in the face of surplus crops, agriculture has felt the full effect of the business slump of 1930. In the light of the present situation, therefore, the efforts to stimulate interest in and increase the use of cotton throughout the country should receive the support of every thoughtful person. This movement to popular-

ize cotton, which has been making such splendid progress, will be of great service in awakening the South to its own responsibility to the fact that it is a consumer, as well as producer of cotton.

## Does the South Know Itself?

IN an assertion that "the greatest industrial development in this country, or in the world, for that matter, will be in the South in the near future," Roy V. White, president of the American Society of Mechanical Engineers, expresses a belief entertained by industrial and intellectual leaders who have studied conditions in all parts of the country. Mr. White speaks through the Birmingham Age-Herald from personal observation.

It is logical, rather than paradoxical, that iteration and reiteration of this fact is needed in the South, itself, at least as much as in other sections. The eye too close to a great object cannot grasp its fullness in proper perspective. Distance broadens the field of vision. So it is that the South may not fully appreciate its climatic advantages, and "the conditions under which labor can live in the South" are too familiar perhaps to Southern people for full realization. "And then, of course, there is the abundance of raw materials. Nowhere else in this country can such lavish natural resources be found."

The fact that the South's annual mineral production is virtually one-third of the national total and that it leads in the production of such basic minerals as oil, coal, bauxite, phosphate, sulphur, lead, feldspar, etc., hardly can be grasped unless it be repeated many times. Repetition is required to impress on the South the significance of the fact that it produces 40 per cent of the country's crop aggregate. In addition, the annual value of its factory output, 1929, is more than \$11,000,000,000, which must be cited many times before the South can realize the meaning of this fact to itself and to the world. Almost equally important is the wide variety of the manufactured products.

Less conspicuous but of equal importance are the educational and intellectual opportunities and achievements of the South which may well be emphasized to the Southern people who provide them and share them more and more each year with the people of other sections. Nearly \$500,000,000 a year is spent by the South in its public schools and more than \$60,000,000 is invested in the equipment of Southern universities, colleges and professional schools.

"I am glad to say that I have found the keenest interest among the college heads and college students among those here in the South that I have visited," says Mr. White, with special reference to engineering, and he adds: "Southern development should be by Southern men from Southern colleges, trained by Southern professors."

This is an endorsement of a policy and practice advocated by this publication for many years.

## Human Side of American Industry

**A**FTER 20 years of accident-prevention as part of its policy and practice, the American Car and Foundry Company surveys its experience with justifiable satisfaction. This company has 16 plants in eight states, including in the South one each at Huntington, W. Va.; St. Louis, St. Charles, Mo., and Memphis, and accident prevention is emphasized at each.

The fundamental proposition on which accident-prevention is based is the sincere interest and earnest support of the officers and management, extending even into the directorate. Also, "the employees must be enthused—they must be taught safety and they must be shown."

"If safety is given the same attention as production, improvement in design, material, new processes and other vital angles of advancing industry, its record will show up the equal, or even the superior, of any one factor to be found in commercial statistics," the company comments.

The result of accident prevention "is probably more important than any other achievement which an organization can accomplish," and the company adds:

"It bears on large sums of money, for losses caused by accidents are extremely costly. A good, successful, well maintained safety campaign knits an organization with a human bond which nothing else can equal. All differences in grades and positions are lost to sight when men are competing for the prevention of accidents. It is the healthiest and soundest cooperative effort which can be made among men, because its appeal and its reward are far nearer to the heart than anything that can be developed by any other cooperative effort. It arouses the great fundamental human trait which is one of the basic features of humanity—namely, self-preservation.

"To popularize the safety idea rightly, the object to be achieved is to get one man to realize that the other fellow's life is just as dear to him and that injury or death to a fellow worker would be just as sad a tragedy as his own death would be to his own family. When that is realized and touches that human trait, the man is not human who will not respond to the safety effort for the protection of his fellowmen. In many cases, in a very spirit of chivalry, a man will not hesitate for a moment to face death for the prevention of someone else's death. This happens daily."

In addition to thousands of safety appliances installed since inaugurating the safety movement, checking of dangerous practices and correcting hazardous operations, each employe on the payrolls of the company has been furnished with eye and head protection adapted for the operation on which he works. A book of safety rules is presented to each worker, translated into the language with which he is most conversant. Hundreds of safety bulletin boards are installed at conspicuous places in the many departments of the plants, and these are changed periodically and kept well filled with new, illustrated safety literature. Periodical safety meetings are held in the plants, and through these activities each employe is kept alert by everlasting preaching of the gospel of safety.

On sanitation lines, ample locker rooms and wash rooms, shower baths and conveniences are supplied liberally throughout each plant. Long-service employes whose production activities are handicapped by age are employed in the supervision of these facilities.

The medical department at each plant maintains a

modern dispensary for employes, the equipment including first-aid material, surgical instruments, operating tables, beds, X-ray machines and physiotherapeutical appliances. Each applicant for work first undergoes a physical examination and thereafter continues under the protection of both the health and safety departments. Each plant is equipped with fire-fighting facilities and regular police and fire patrol service is maintained.

Nor does the company stop at the phase of physical protection for its employes. At several plants, shop courses on foremanship training have been instituted; also, helpful information is furnished through the plant libraries, which subscribe to periodicals and other publications of interest to the employes.

The practice of men owning their own homes is encouraged. Experience proves that this has a wholesome effect. Families take pride in their own homes, greater than in homes which they do not own, the company finds.

From knowledge of working conditions in many other plants and industries, particularly in the South, the MANUFACTURERS RECORD is pleased to believe that this great humanitarian and economic movement is widely prevalent throughout American shops.

Scores of other industrial concerns, in every line, operate in the same general fashion, and the procedure and the achievements of this company may be regarded as typical, rather than unique.

Protection against accident and injury to the workers is rightly regarded as the most highly valued factor in American industrial efficiency in this day. This value cannot be translated into terms of dollars. Calculations may show a money profit in the number of operating-hours saved, but the value of an eye or an arm to a workman cannot be computed in cold cash.

So it is that on both humanitarian and economic grounds American industry in general now directs the same attention toward protection of the workers as it devotes to improving manufacturing and distributing methods. No longer are industrial computations confined to volume production and distribution, or profit and loss. The United States Government announces that 200,000 American industrial plants turn out nearly \$70,000,000,000 in products and pay about \$12,000,000,000 in wages to 8,500,000 wage earners, a year. Industrial concerns go farther and cite with equal satisfaction the annual saving of life and limb for their employes.

In previous references to this interest of industry in accident prevention, the MANUFACTURERS RECORD has treated it somewhat as an individual subject. Through the broadening activities of industry for the welfare of the workers, such as employment insurance and retirement pensions, accident prevention now is to be regarded as one factor in a wide humanitarian and economic movement. Industry describes it as the outstanding factor, and that view may reasonably be accepted. Many illustrations could be cited of how various industrial manufacturers are applying the principle in actual practice.



# The South From the Air

**T**HE South is a land of enchantment, a land where dreams come true, dreams of romance and of great achievement in agriculture, industry and social development. The South is surpassingly inspiring in the concrete evidence of its advance during the last half century.

One area in particular I have seen from the sky—a segment below a straight line drawn from Atlanta to Los Angeles, including Georgia, Alabama, Mississippi, Louisiana, Texas, Arizona and lower California, approximately one-third of the land area of the United States, excluding Alaska. It is a sunlit area of lovely flowers and majestic trees typified by live oaks, by Magnolia festoons and by draperies of Spanish moss. It is blessed with a healthy and invigorating climate, modified by winds from the Atlantic and Pacific, and fragrant breezes of the Gulf of Mexico. It is a paradise for the hunter, the fisherman and the lover of the historically romantic and naturally picturesque. But above and beyond mere physical attractions is the Southern spirit of hospitality to the stranger, inviting him with a wholesome sincerity to feel at home.

Southern airways have reduced the time of travel to one-third the time heretofore required for first-class railways. Southern airways now span the lower South from Atlanta to Dallas, and from Dallas to Los Angeles, while branch lines radiate in all directions, connecting all the great Southern cities with important centers of population east, north

By  
**FREDERICK L. HOFFMAN, LL.D.**

Wellesley Hills, Mass.\*

and west. It is true that much yet remains to be done to make the air service a perfect success, but this will be done as a better sense of air-mindedness on the part of the traveling public and a much more extended use of air mail develops.

I have previously described air travel between Birmingham and Brownsville, Texas. Now that the line has been completed from Atlanta to Fort Worth and Los Angeles, 2102 miles have been added to the great air transport system of American Airways, which recently absorbed the Delta lines from Atlanta to Fort Worth, and the Texas Air Transport lines, a subsidiary, from Dallas to Galveston and Brownsville. The air distance from Atlanta to Los Angeles is 2102 miles. The airplane leaves Atlanta at 8 A. M. and arrives at Fort Worth at 3.20 P. M., a distance of 783 miles. The journey is continued the

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next morning at 8.25 A. M. and the plane reaches Los Angeles at 7.11 P. M. The system runs a line to Brownsville, a distance of 551 miles, leaving Dallas at 7.45 A. M. and reaching Brownsville at 2.05 P. M., making connections next day with the plane for Mexico City. Another line connects Dallas with Houston, a distance of 293 miles, leaving at 7.45 A. M., reaching Houston at 11.05 A. M., and Galveston at 11.35 A. M.

I left the Atlanta airport at 8.00 A. M. on a fair day, but with rather poor visibility. Atlanta from the air makes an imposing picture, typifying the industrial and commercial progress which has come to stay. It was a startling contrast with the Atlanta as I knew it 40 years ago. Far away stretch miles and miles of pleasant suburbs, soon followed by countless evidences of careful and prosperous farming, emphasizing the adoption of the method of circularising to prevent needless soil erosion. Vast stretches of land are yet in timber, or lying fallow. No stop was then made at Birmingham, pending the opening of that great \$1,000,000 airport.

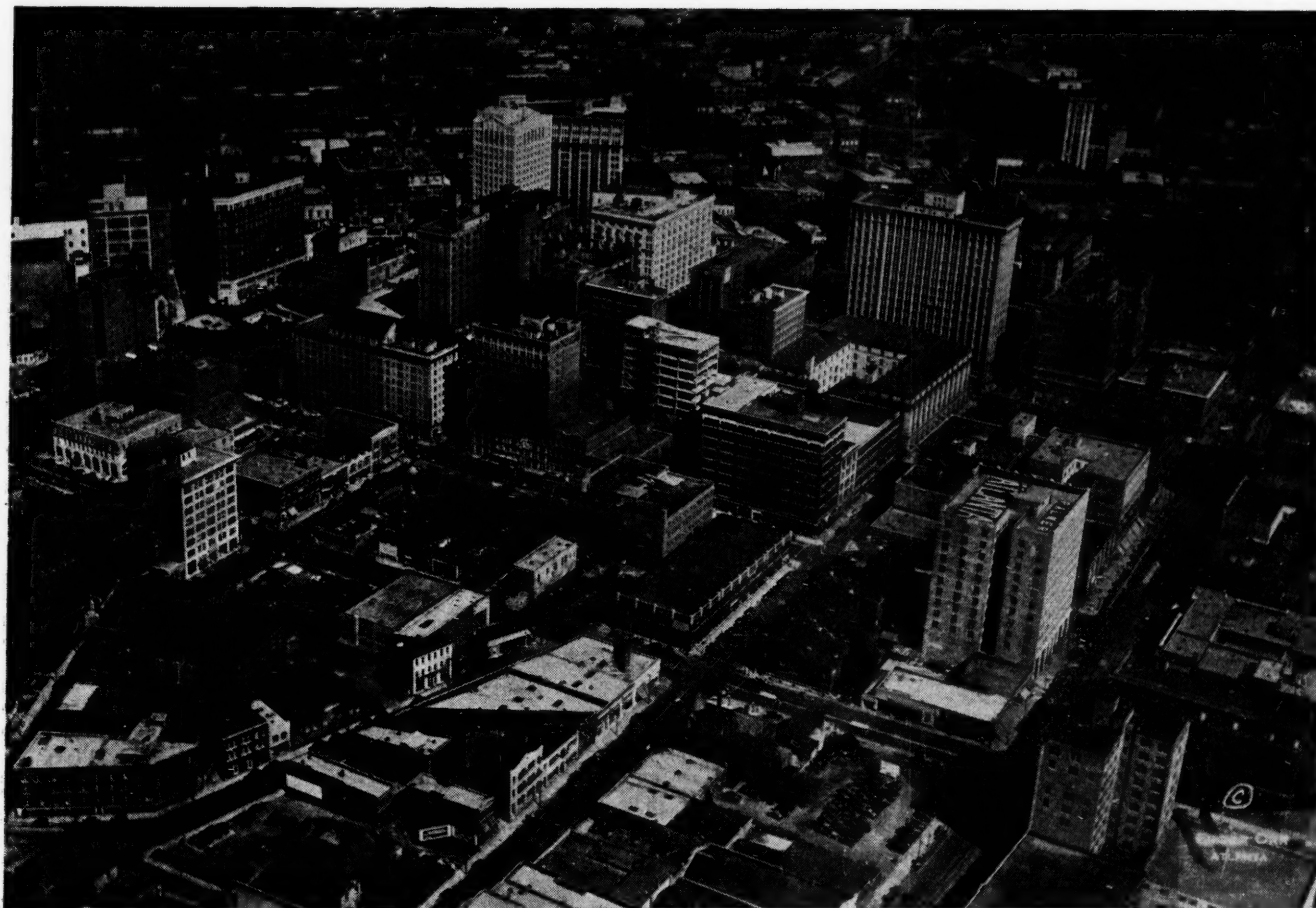
It is a delightful experience to travel by airplane. The eye never wearies of the interesting scenery below, provided the visibility is good. On clear days, one can see the country for a radius of 40 or 50 miles. It is awe-inspiring to contemplate the vast opportunities for future development in the upland sections of northern Georgia, Alabama and Mississippi. Much of this is yet in un-



©The Howards, Tulsa

Skyline of Tulsa, Okla., Dominated by the Tower of the \$4,000,000 Exchange National Bank and by the Philtower Building





©Edgar Orr, Atlanta

**Atlanta Is the Jobbing Center of the Southeast. Here Is Shown the Business Heart of the Georgia Metropolis**

broken forests, covered mostly by second growth.

Nothing is more pleasing on an air journey than the river vistas. The supreme effect of river scenery occurs in the crossing of the Mississippi, and it is interesting to speculate how much earlier the battle for Vicksburg would have ended if aerial warfare had at the time been developed to its present stage of military effectiveness.

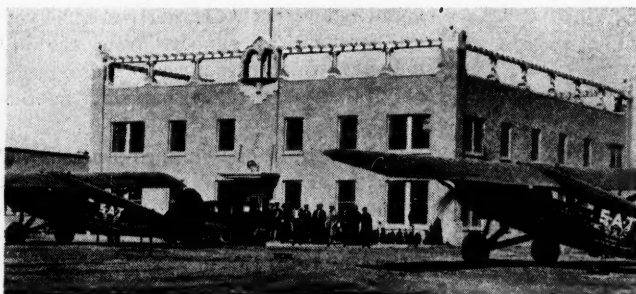
After Vicksburg, the plane flies over the swamp lands of the northern parishes of Louisiana. I had hoped for a glimpse of the Bastrop hills and a better view of the drainage development which

is making untold acres of immensely valuable land available for agriculture in this section. Soon we were over Monroe, and after a short stop at the thriving city Shreveport, we passed into Texas. The flight was made at an average altitude of 1000 feet above the ground. Everything below was fairly visible, particularly the meandering waterways of the Red River, which above the city expands into the proportions of a sizable lake. A good air map should be carried.

Dallas was reached precisely on time, at 3.08 P. M., and after a short stop the plane proceeded to Fort Worth, which

was reached at 3.25 P. M., or seven and one-half hours after leaving Atlanta. I said goodbye to the pilot, Lee Wallace, a man of few words, but as skillful in navigating the huge craft as any pilot in my experience. As a matter of fact, every transport pilot is a master of his craft, for his responsibilities for life and property are among the greatest demanded of any vocation.

One must see Texas from the air, to realize clearly the grandeur and the power of the Lone Star State. One must see the endless miles of black prairie country, to understand the nature of its immense wealth in agricultural re-



**Administration Building, Southern Air Transport Division of American Airways, at Love Field, Dallas**



**Passenger Depot of American Airways, Inc., at Candler Field Airport, Atlanta, Georgia**



Over Nueces River in the Fertile Rio Grande Valley Near Brownsville. Orange Groves Shown at Upper Right

sources. One must see Dallas and Fort Worth from the air, to grasp fully the extent of their commercial and industrial progress during recent years. Everything looks new and spic and span. Towering edifices give a metropolitan aspect to these cities, while broad streets everywhere conform to the Western spirit of a wide outlook on life and its problems. Here, the South imperceptibly merges into the West. Nowhere can one find a finer physical type of men and women than in Texas. Kindly disposed in a Southern manner, they bid every one a friendly welcome.

From Fort Worth, I made a detour to Houston, the great industrial center of south Texas. Here again the air vista was overwhelming. The vast area covered by the city gives abundant room for individual homes. The distance from Fort Worth to Houston by air is 263 miles, made by plane in a little less than three hours, including a stopover at Waco. From an elevation of 700 feet at Fort Worth, the land slopes off to almost sea level at Houston. It is but another revelation of present day achievements and future possibilities of more intensive development. Vast forest resources re-

main unused or waiting for the day when land reclamation on a large scale will be taken up. The most amazing spectacle of this journey is the Brazos River, a shallow but mighty stream 950 miles in length. Seen from the air, one can grasp something of the magnitude of the problem of river and flood control. I saw some hydroelectric development. There were surprisingly few bridges, suggestive of a time when bridges will be needed to accommodate traffic development. In every direction, the air traveler can follow ribbon-like stretches of modern highways which make almost every part and portion of the state accessible. But modern airways help most, because of the immense saving in time, for a state of imperial distances needs the airplane which reduces the time of travel by motorbus or rail to less than one-third.

I made another detour by air from Fort Worth to Tulsa, Okla. During this journey I had an excellent opportunity to gain some impression of the Trinity River canal, which is dear to the hearts of the people of Fort Worth and Dallas. For this canal, when completed, will become a part of the 14,000-mile inland waterway system of the United States, through its connection in Galveston Bay with the Intracoastal canal. The cost of the Trinity River canal project is estimated at between \$30,000,000 and \$40,000,000. It would have sufficient water supply for barge transportation through connection with five lakes, impounding a total of 1,820,000 acre-feet. Lake Worth, one of the minor sources of the supply, is plainly visible from the air.

Tulsa is a revelation. Tulsa now has a population not far from 200,000; whereas it was the one hundredth city in size in 1920, it was the forty-fourth in 1930. It has an excellent municipal airport, which is reputed to handle a larger amount of commercial business than any other airport in America and to be within 12 hours by air of any point in the United States, southern Canada and northern Mexico. In 19 months of operation, it handled 65,656 paid passengers, and 18,674 passenger-carrying ships arrived at or departed from the Tulsa municipal airport. It derives much of its aeronautical support from the oil industry, which uses aircraft more, probably, than any other industry in the country.

Tulsa's towering buildings proclaim its commercial prosperity in unmistakable terms. It boasts as fine hotels as any city in the South. An interesting sight from the air is the 40,000-barrel refinery of the Mid-Continent Petroleum Corporation which covers an immense area. There are several lovely lakes near the city, especially Spavinaw Lake and dam.



Downtown Dallas, From the Standpoint of Impressive Skyscrapers, Compares Favorably With the Great Metropolitan Centers of the Country



Returning, I passed from the Arkansas River to the Red River, near which I could see the city of Sherman, Texas, another interesting municipal development of the Southwest. Then, returning to Fort Worth, I left on schedule time on a fair Sunday morning at 8.21 o'clock for Los Angeles.

It is difficult to describe the truly overpowering impression of this journey of about 1300 miles, covering almost every variety of scenery conceivable. Near Abilene, Texas, at an altitude of 2600 feet, I took note of the oil fields. We soon reached Sweetwater, and Big Springs a little while later, at 10.40 A. M., where we made a short stopover for servicing of the plane. Near here also are large oil camps and storage basins typical of the oil industry. Midland, another oil center, was soon passed, near a large lake, while everywhere stretched the endless plains of western Texas.

The plane rose higher and higher, until at El Paso we reached an altitude of 4200 feet above sea level. This is an intensely interesting locality from a sight-seeing viewpoint and well worth a prolonged stopover. Words hardly can express the picturesqueness of this region. Far to the south stretch the mountains of Old Mexico. The city itself covers a vast area along the banks of the Rio Grande. Here and there are large patches of desert region, and here and there also are small lakes. I identified the Elephant Village, not far from Elephant Butte dam, which impounds waters of the Rio Grande. There are sections which resemble rock gardens of grotesque proportions. My attention was called to Mitre Peak, some 25 miles from El Paso. I also could identify Fort Bliss, from which a few years earlier I had made an air trip from Douglas, Ariz., through the courtesy of the Army. Finally, I took note of the El Paso smelter, one of the leading local industries, which I had inspected years ago in connection with industrial investigations.

From El Paso, my journey continued to Douglas, which now has a real airport. All along the line, the airports made a better impression than on former occasions. The stop at Douglas was short and we were soon on our way to Tucson. Everywhere are mountains, often reaching great heights, with evidence of snow on the summits, but identification was difficult in the absence of suitable air maps. The plane ascended rapidly after leaving El Paso, reaching an altitude of 7000 feet, while flying at a rate of 120 miles an hour. It is difficult to withdraw the eye from the enchanting mountain scenery, which gains naturally from the great height at which the plane flies, or approximately 8000 feet. The plane descends to 4500 feet at Douglas. The sky was pure blue, with-



S. A. T. Passenger Plane Over Corpus Christi, Texas, Showing the Bay in the Distance

out a cloud, typical of the sunny Southwest. Approaching Tucson, we reached an altitude of 7500 feet. Here, too, the scenery is extraordinary. Everywhere are evidences of irrigation and the development of Gila Valley near Phoenix is remarkable. Phoenix now has a much better airport than formerly, due largely to the enterprise of the American Airways.

Following a beautiful sunset, we passed into the darkness of night, being guided all the way to Los Angeles by intermittent lights of lighted airways. It was not long before we passed over the suburban cities of Los Angeles, particularly Pasadena, with its myriad of

lights which merged imperceptibly into those of Los Angeles itself, where we landed safely at 7.11 P. M., precisely on time.

Only two days from Atlanta to Los Angeles. The cost is \$147.15. The number of planes in operation by the Southern Air Transport, American Airways' subsidiary, from January 1 to September 30, 1930, inclusive, was 51. Actual mileage of all routes is 6271, while the actual miles operated during the first nine months of 1930 was 2,025,865. The number of passenger miles flown during the same period was 4,283,132. Average number of pilots employed was 29. Total number of passengers carried from Janu-



Jernigan Photo Service

Fort Worth, Texas, With the \$8,000,000 Construction Project of the Texas & Pacific Railway Company Shown in Foreground





Photo by Southwest Air Services

#### Air View of Houston's Business Section Which Has Been Almost Completely Transformed During the Last Decade

ary to September, 1930, was 17,683, without injury to a passenger or pilot.

The planes now have radios installed and weather reports are received by radiotelephone. No weather reports are over an hour old. On leaving Houston, approaching Waco, we waited a considerable length of time for new weather reports, on account of low ceiling. For quite a while the pilot was uncertain as to whether to proceed, until the weather report was received giving him the assurance of absolute safety for passenger transport purposes. Pilots have orders

never to fly with the ceiling less than 500 feet. They have instructions that whenever they consider the weather to be dangerous they may cancel the flight at the nearest landing field. They also have instructions never to fly through, but rather around, thunderstorms. All pilots are instructed to look over the daily weather maps before commencing their runs. Special instructions regarding line squalls, thunderstorms and sandstorms always appear on the weather clearance forms. Thus, all that human ingenuity so far can suggest is

being done to protect the passenger against risk.

Certainly, during my own journey, I never experienced the slightest degree of discomfort on the largely mythical air bumps of which so much is made by amateur air travelers whose overexcited imaginations picture risks that in reality do not exist. Nor is there very much in the bugaboo of air sickness, for I have seen only a few cases in my more than 200 air journeys in different parts of the world.

#### \$1,250,000 Nashville Building

Nashville, Tenn.—Foundation work has begun here for a \$1,250,000 theater and office building at Sixth avenue and Church street for Warner Brothers Pictures, Inc., New York. Contract for the reinforced concrete foundation was awarded to the Sumner Construction Co., Nashville, and work is expected to be far enough advanced in a few weeks to permit the steel work to be started. Structural steel contract has been awarded to the Nashville Bridge Co. and steel erection to the R. H. Goodrich Co., both of Nashville. Bids on other contracts will close June 15. The building will be 12 stories, the first two floors to be faced with black granite and the 10 upper floors with limestone. Windows will be set off on each side by aluminum strips running the height of the building. The theater will have a seating capacity of 2500. There will be three basements,

one of which will provide space for a restaurant, the second for a garage to accommodate 150 cars, and the third for a heating and cooling system. About 200 offices will be provided and on the first floor there will be two stores. Marr & Holman, Nashville, are the architects.

#### Plans \$500,000 Expenditure

New Orleans, La.—Plans have been made by the Postal Telegraph Company, New York, for the expenditure of \$500,000 in Louisiana during the next four months, according to J. E. Munn, New Orleans, superintendent of the fourth district, Southern division. Four main offices will be opened in Lafayette, New Iberia, Crowley and Abbeville, and three additional branch offices in New Orleans, the same number in Shreveport and two in Monroe. Fifty-five additional employes will be put on the payrolls.

#### \$1,000,000 for Race Course

Miami, Fla.—The Miami Racing Association, Joseph E. Widener, Philadelphia and Miami, chairman of the board of directors, is considering plans to expend \$1,000,000 for the improvement of Hialeah Park here. Work is expected to begin soon with the idea of completing a part of it before next winter and the remainder by the 1932-33 season. The racing oval will be made a mile and a furlong, with a mile chute and a seven furlong chute, and all stables on the back stretch will be removed and new ones built back of the grandstand. The paddock will be re-arranged and the clubhouse enlarged.

Reports state that the City of Richmond, Va., will probably offer an issue of \$1,000,000 improvement bonds on June 8, to bear an interest rate of 4½ per cent.

# World Trade Discussed

**D**ISCUSSION of ways and means for revival of American world trade evoked many suggestions, some of them divergent, before the National Foreign Trade Council convention, which closed its sessions in New York on Friday of last week. The underlying sentiment, however, was expressed by Thomas W. Lamont of J. P. Morgan & Co.:

"Do not let us for a moment get in mind the idea that our problems today are unprecedented, or that they are insoluble." The way back, he said, might be arduous, with a long trek perhaps to complete prosperity again, but the situation is far from hopeless.

As chairman of the Council, James A. Farrell, president of the United States Steel Corporation, advocated an advance in commodity prices, asserting it to be a fact that "prices are around the cost of production or lower," and that when prices fall, buyers withdraw from the market.

In contrast with several attacks on the American protective tariff, however, Mr. Farrell said in a paragraph of his address as released to the press for publication:

"To those who complain that American trade has suffered through the present tariff law, I need only point to the fact that similar complaints were made concerning the effects of the lower tariff schedule of 1913. In neither case has the existing law availed to prevent a business slump. In 1914, under a low tariff, we entered upon a period of trade stagnation, which was relieved only by the abnormal demands of war. In 1930, with a higher tariff, trade fell off.

"Obviously, we must look to other causes as the major factors which have tended to disturb the balance between production and consumption throughout the world."

As to commodity prices, Mr. Farrell further said:

"It is rising prices that stimulate buying and consumption and the return of prosperous times. \* \* \* The importance of fair prices cannot be overestimated in determining the influences favorable to an advance in commodity prices and the restoration of trade. Competition is unfair to industry and to the commodity when price-cutting has the tendency, as in all uneconomic activities, of taking the form of profitless merchandising."

Belief that the United States "has done its job" in lending funds abroad was expressed by Willis H. Booth, vice-president of the Guaranty Trust Com-

pany, in refuting allegations that world conditions would have been better had America loaned still more money. In 1926 to 1930, inclusive, he cited, the normal trade balance in favor of the United States was \$500,000,000 and, under normal conditions, America would have loaned that amount. Between 1926 and 1930, he added, the United States loaned abroad \$700,000,000 a year.

Pointing to an estimated waste of \$8,000,000 a year in textile distribution, Edward T. Pickard of the Department of Commerce stressed the need for economic research in the textile industries, and more professionalized studies of distribution methods and markets. More careful analysis of American export figures, he added, probably would show a loss smaller than that suffered by most other countries.

In the present unbalance between production, distribution and consumption, American exporters are encountering intensified competition in foreign markets, said Gilbert H. Montague, a lawyer of New York. Also, American manufacturers at home are encountering intensified competition from foreign imports, notwithstanding all tariff and anti-dumping laws. Present assumption that American business cannot fairly ask permission to make restrictive agreements and price agreements, to correct the economic unbalance, without according the Government power to regulate and fix resulting prices, finds no support in the Webb-Pomerene law, he added. "Just two simple principles dominate" this law:

"First, quota agreements and price agreements, so long as they stay within the sphere prescribed by the Act and do not artificially or intentionally enhance or depress prices, and are not unfair to competitors outside such agreements, can safely be exempted from the anti-trust laws; and,

"Second, that all these exempted agreements can be adequately patrolled by the Government, if all parties intending to enter into such agreements will record their names and their articles of association, with the Federal Trade Commission, so that on anyone's complaint the Government can immediately ascertain who and where are the parties who have entered into such agreements."

Recently returned from a trip abroad, Mr. Lamont said:

"I have been surprised and impressed by the fact that in no country that I visited in Europe was the gloom quite so thick as here in America. I hardly have to say to you that the most pros-

perous country in Europe has not the optimistic outlook for the future that America has, yet I find this feeling here."

While he did not discuss the tariff, Mr. Lamont felt that "artificial barriers against our foreign trade" should be discouraged.

"This depression is a purely psychologic state," said Paul F. Mahoney, executive vice-president of the International B. F. Goodrich Corporation, to which E. M. Fisher of Fairbanks, Morse & Co. added:

"With so much of a discouraging nature being written and talked, why not be honest with ourselves and make a fair comparison between the depression of 1920-21 and 1929-30. What happened to us 10 years ago? Have we forgotten the thousands of cancellations; the piling up of stock overseas, unsalable for months; tremendous inventory losses; total loss of post-war distributors and agents and the agony and expense of building up a new structure? I am afraid we have all forgotten.

"By comparison, the period of 1929-30 saw light inventories, few cancellations, complete retention in many cases of active and solvent agents, and light direct losses. Let us be honest and see the picture as it really is, and go ahead with renewed courage and confidence for the future."

The foreign trade advisory service always provided by the Council at its conventions was largely consulted and was pronounced of great value.

## Education in the Carolinas

University and college activities in the Carolinas were set forth in interesting fashion by the Charlotte News, May 24, in a special school section. The denominational school and its work were described by Dr. W. J. McGlothlin, president of Furman University, Greenville, and the close contact between colleges and schools was explained by Dr. William H. Frazer, president of Queens-Chicora College.

Among the institutions discussed were the University of North Carolina, Duke University, Davidson College, Winthrop College, Converse, High Point College and North Carolina College for Women. Henry R. Dwire, director of public relations at Duke; Dr. Walter Lingle, president of Davidson; G. I. Humphreys, High Point College, and R. W. Madry prepared various articles.

# Bonnet Carré Spillway Protects

## New Orleans

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A \$3,500,000 project constructed to divert floodwaters of the Mississippi River into Lake Pontchartrain.

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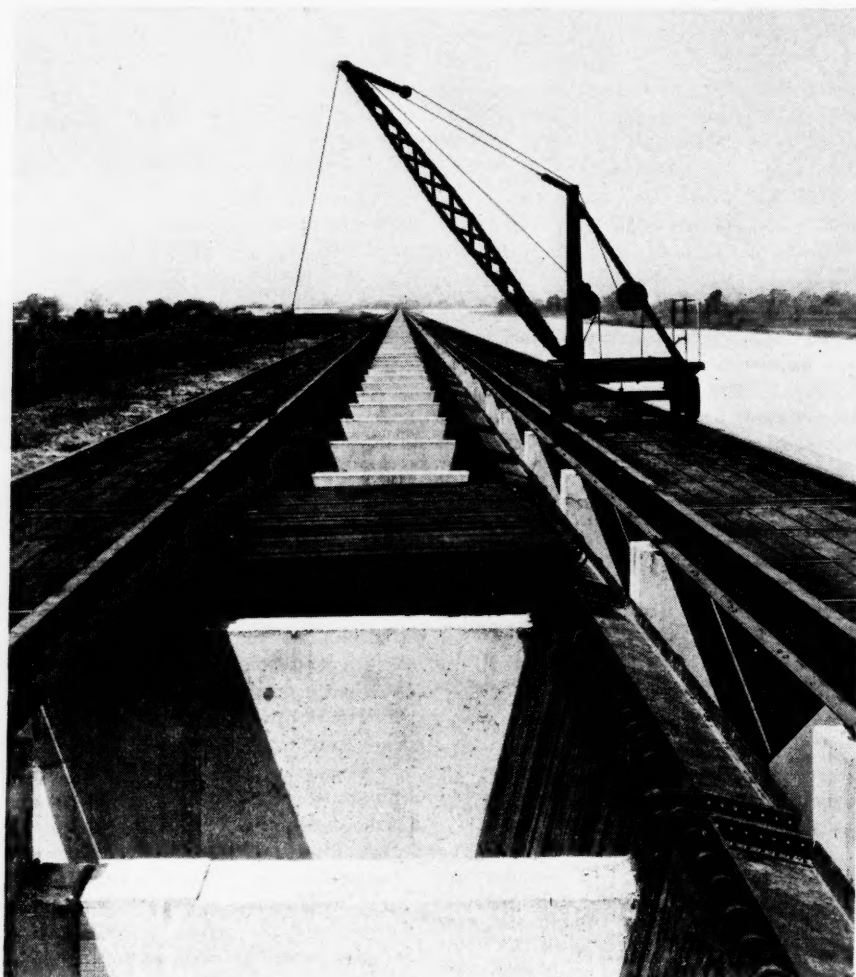
**W**HEN in the future the Mississippi River reaches a stage of 20 feet at New Orleans and threatens to overflow levees protecting that city and adjacent territory, the \$3,500,000 Bonnet Carré Spillway built on a site 28 miles above the Crescent City will divert 250,000 cubic feet of the floodwaters each second through a six-mile floodway into Lake Pontchartrain. It is a controlled spillway of the needle dam type and has a length of 7698 feet between abutments.

The weir contains 350 bays, each 20 feet long between two-foot piers. These

bays carry needle gates of 12-inch squared timbers set at an incline. When the spillway is in operation, a hand-

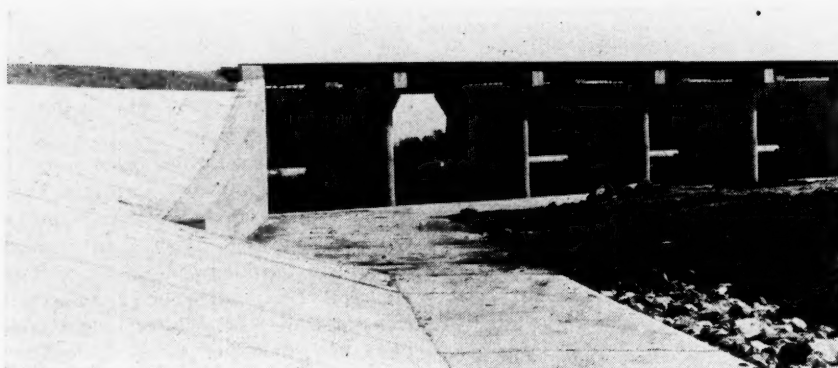
driven crane operating on a bridge atop the bays will pull out the needles one by one until the required number are raised. Half of the sills of the weir are at an elevation of 16 feet above the mean level of the Gulf of Mexico; the other half are two feet higher.

Elevation of the service bridges across the piers is 30 feet. The fore apron and stilling basin are constructed at an elevation of eight to six and a half feet, while the rear apron is 12 feet high. Three rows of staggered baffles extend throughout the length of the stilling basin, beyond which a flexible concrete mat resting on rip-rap affords protection from scouring. Velocity of the water pouring over the dam is slowed by this means. The leveed floodway is 8000 feet wide at the river and 12,000 feet at the



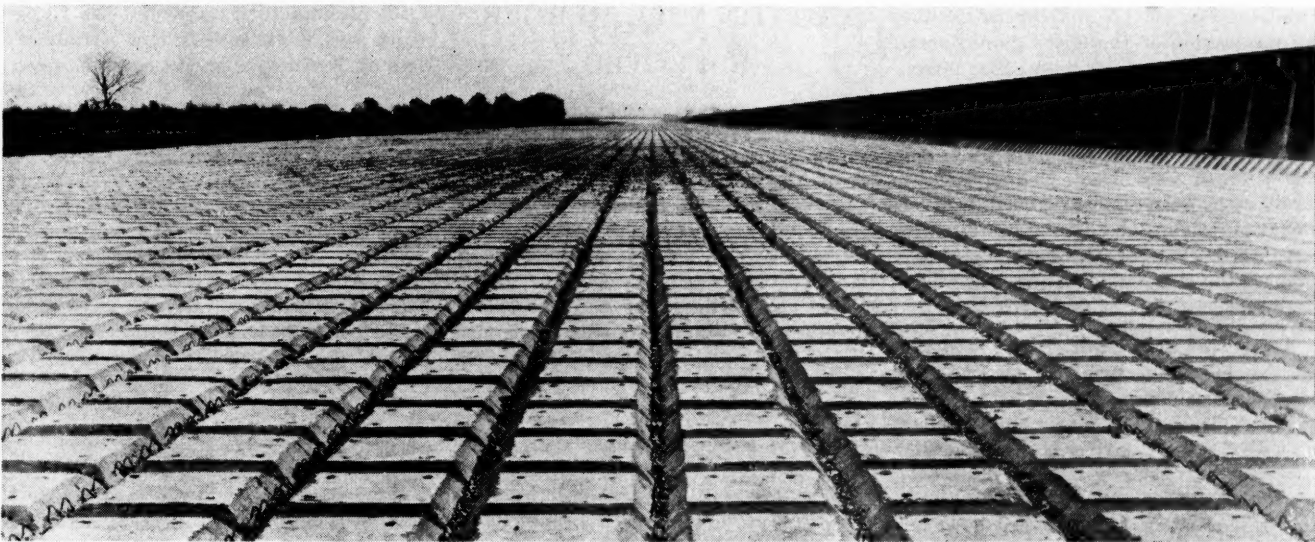
Hand Driven Crane Used for Handling Needles

Looking North from lower end over top of bridges



On the River Side at Upper End of Weir



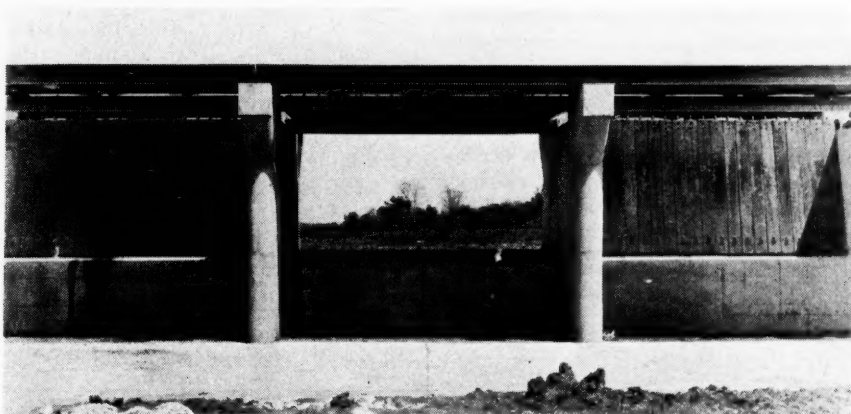


Articulated Slab Constructed in Front of Weir on the Lake Side to Prevent Scour

lake. Side levees are 12 to 19 feet high.

Construction of the project was authorized by the Flood Control Act approved May 15, 1928, when the plan for flood control of the Mississippi River and its Alluvial Valley as embodied in House Document 90, first session, Seventieth Congress, was adopted. The contract for the spillway structure was let in the fall of 1929 to Stevens Brothers, St. Paul, Minn., and the Miller-Hutchinson Co., Ocean Springs, Miss. Major W. H. Holcombe, United States District Engineer, supervised the project. Doullut and Ewin, Inc., New Orleans, were contractors for the service bridges and needles. This organization drove the steel sheet and wood piling under subcontract with Stevens Brothers and Miller-Hutchinson.

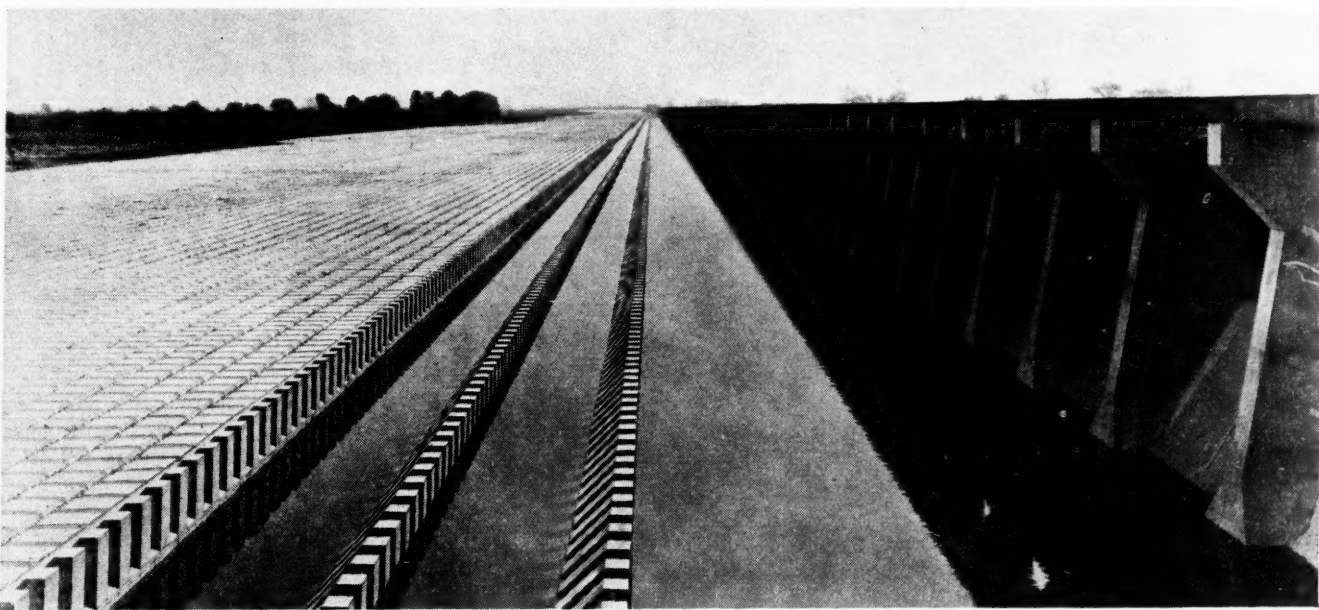
The floodway levees were built under



Showing Sections of 16-Foot Weir With Needles Raised and in Place

three contracts awarded to: Boone and Wester, Sellers, La., for the dry land sections of both the upper and lower guide

levees; Jahneke Service, Inc., New Orleans, for the swamp section of the upper guide levee; and the McWilliams



View of Weir Base and Submerged Baffles From the Lake Side

Dredging Co., Inc., New Orleans, for the swamp section of the lower guide levee. The swamp sections of both guide levees were constructed by the hydraulic fill method. Elevation of the land in the floodway near the river is 12 to 14 feet above mean Gulf level, which is relatively high compared with the two-foot elevation of the land in the swamp and near the lake. This difference in elevation accounts for the construction methods employed.

Among the principal items of material and construction involved on the job were: 420,000 cubic yards of excavation; 600,000 square feet of steel sheet piling; 750,000 lineal feet of wood piling; 127,000 cubic yards of concrete; 198,000 tons of rip-rap and talus; 280,000 pounds of reinforcing steel; 500,000 pounds of structural steel, and 75,000 cubic yards of embankment. Smaller items included the backfill, castings, reinforcing mesh, and copper bearing steel reinforcement.

The problem confronting the designers of the spillway was to lower the water 24 feet in the distance of six miles from the river to the Gulf level, an accomplishment for which the Mississippi River in its natural course requires 150 miles.

Detailed particulars covering this project were given in the MANUFACTURERS RECORD of June 5, 1930.

## COTTON MILL MERGER EFFECTED

Consolidated Company Capitalized at  
\$17,500,000

Gastonia, N. C.—Stockholders of 14 cotton mill companies meeting here, approved directors' plans for the merger of their mills into a new company to be known as Textiles, Inc., and authorized directors of the new company to acquire six other mills by an exchange of stock. The new company will be capitalized at \$17,500,000, of which more than \$10,000,000 will be outstanding upon the completion of the initial consolidation, which will control approximately 300,000 spindles. The following mills are included in the consolidation: The Cora Cotton Mills, King's Mountain, N. C.; Elizabeth Mills Co., Charlotte, N. C.; Merco Mills, Inc., Lincolnton, N. C.; Priscilla Mills, Ranlo, N. C.; Arkray Mills, Inc., Arlington Cotton Mills, Gray Manufacturing Co., Mutual Cotton Mills, Myers Mills, Inc., Myrtle Mills, Inc., Osceola Mills, Inc., Seminole Cotton Mills Co., Victory Yarn Mills Co. and the Winget Mills Co., all of Gastonia. The six mills to be acquired by the new company include the Dilling Cotton Mills, King's Mountain; Helen Yarn Mills and the Wymojo Yarn Mills, both of Rock Hill, S. C.; Lockmore Cotton Mills, York, S. C.; the

Flint Manufacturing Co. and the Ridge Mills, Inc., both of Gastonia. Main offices of Textiles, Inc., will be maintained here.

## 16,000 Acres Purchased for Club

Tryon, N. C.—Devereux Emmet and other New York interests, with Lee Tobin, Washington, D. C., have purchased the Hogback Mountain property near Tryon, for the development of an exclusive club project. The property embraces 16,000 acres, which will be held by the Carolina Mountains Holding Company. Plans of the company call for a club house, two 18-hole golf courses, polo field, swimming pools and tennis courts. A pheasant hatchery will also be maintained.

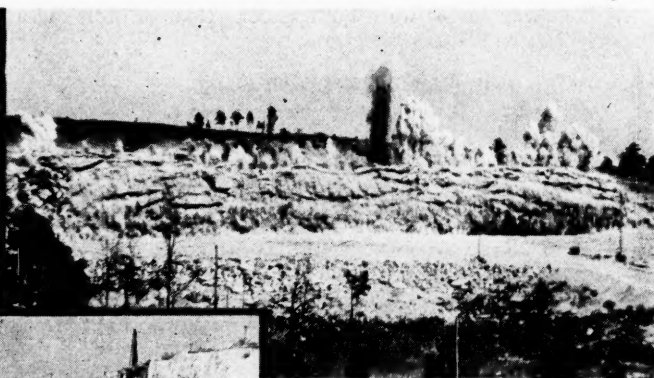
## \$604,000 Bid on Conservatory

Washington, D. C.—The George A. Fuller Co., Washington, submitted low bid at \$604,000 to construct a conservatory in the Botanic Gardens here at First and Canal streets, southwest, according to a tabulation of estimates by David Lynn, Architect of the Capitol. Bennett, Parsons & Frost, Chicago, Ill., are the consulting architects.

## 12 Tons of Dynamite Dislodge 81,000 Tons of Rock



Before the Blast



During the Blast

Eighty-one thousand tons of Georgia granite, or enough stone to pave 50 miles of highways, was displaced when a 24,175-pound charge of DuPont dynamite was exploded recently at the Rock Chapel, Ga., quarry of the Consolidated Quarries Corp. Understood to be the largest dynamite blast set off in the history of the



After the Blast

State of Georgia, the operation consisted of 42 well drill holes spaced on 17-foot centers and driven to an average depth of 70 feet.

R. C. Crumbaugh, of the Birmingham office of E. I. du Pont de Nemours & Co., supervised the blast. Arthur La Motte, Wilmington, Del., is manager of the technical section of that organization.



# The Manufacturer and the Future\*

WE are passing through a period that tests the stuff with which industrial leadership is made. Behind us are nine years of extraordinary prosperity and an engendered belief that depressions were a thing of the past. Now, with a new sense of responsibility and a year of compulsory adjustment, we face a future without exaggerated optimism or over-cultivated pessimism. A few things have become clear.

Neither government nor private conference can produce a miracle of restoration. Hard work, sound judgment, self-restraint and systematic cooperation, guided by the lamps of past experience, alone assure a safe pathway for the feet of the future. There are no political prescriptions that cure economic disorders. Many in Congress will urge enlarged public appropriations, greater taxation and new experiments in the political control of business. Already, substantially \$13,000,000,000 of national income is expended by the localities, the States and the Nation. More than one-eighth of the annual production of wealth is diverted into public adminis-

\*From an address to the manufacturers of Baltimore, Md., May 22.

By  
JAMES A. EMERY

General Counsel,  
National Association of Manufacturers

tration and expense. It means that six weeks of personal effort goes into the public coffers.

A proposal will be renewed in the new Congress to appropriate \$100,000,000 from the Federal Treasury to aid the States in the establishment of social insurance systems. Once that leak in the dike is enlarged, the larger and more populous States will be disproportionately drained for the support of their leaner brethren, the cost of doing business will be continuously increased and the industrial patient bled to increase his strength and improve his health. If the present situation is produced by the lost balance between production and consumption, it is well to note that governmental attempts to drive the tandem of supply and demand have made a distinct contribution to the destruction of economic equilibrium. Observe the attempt

of Japan to control camphor and silk; Brazil to valorize coffee; England to control rubber; Cuba, sugar; Chili, nitrates, and the grain pools of Canada and the United States. In each instance, if production was controlled to enhance prices, competitive production was stimulated, or where the State monopoly tended to become complete, science elsewhere found synthetic substitutes. The results were over-stimulated production, a decline and crash in prices and supply and demand ran away from the political reinsman.

The hour is ripe for economy, for abstinence from political answers to economic problems and for closer cooperation between the elements of industry in the cooperative establishment of control over the economic elements of their problem. Never before has the hour called more strongly for intelligent, enlightened and systematic cooperation among the manufacturing elements of the nation. They have placed it in the first rank of the world's industry. To hold it there and meet their enlarged social responsibilities, common counsel is essential in an interdependent and cooperative world.

## Use for Waste Wood

In reporting increased demand for "chip mats," the National Committee on Wood Utilization, Department of Commerce, says that Oriental methods of production could be improved on in this country. Waste wood slabs from Japanese cypress and white pine are cut into pieces 40 inches long and thoroughly soaked in water, mounted on stands and planed into thin shavings of paper-like thickness. The two-inch blade is so constructed that the shaving is automatically divided into six or more ribbons of varying width. They are then dyed and woven on simple hand looms into mats approximately 24 by 33 inches in size.

The major demand for these mats comes from the florist trade, as decorative backgrounds for flowers. Also, there appears to be wide use for this woven material, ranging from summer table mat decorations, novelty coverings for books, fancy boxes and baskets to its possible use in women's hats. Mod-

ern American veneer machinery, with slight modification of cutter knives, is said to be suitable for mass production, and the mats can be woven by machine. The committee adds that thousands of carloads of wood are going to waste, much of which might be used for manufacture into useful products.

## \$900,000 Soldiers' Home

St. Petersburg, Fla.—Acting upon a recommendation of the Federal Board of Hospitalization, Brig. Gen. Frank T. Hines, chairman, and Administrator of Veterans' Affairs, President Hoover has approved the selection of St. Petersburg as a site for a branch of the National Home for Volunteer Soldiers. The home will occupy a 500-acre tract of land offered by the city on Boca Ceiga Bay, and will involve the construction of buildings to cost initially about \$900,000 and estimated to take care of 4000 veterans.

## \$600,000 Unit for Masonic Home

Contract will be awarded to M. A. Long Co., Baltimore, to erect a \$600,000 first unit for a Home for Dependents of Masons, at Bonnie Blink near Cockeysville, Md., for the Grand Lodge of Maryland, A. F. & A. M., George R. Gorsuch, Grand Master, Baltimore. Construction will involve a 3-story and basement main building to accommodate 140 guests and attendants; power house, service building, quarters, etc. Low bidders on other phases of the project include: The Westminster Hardware Co., Westminster, Md., for heating; Erie City Iron Works, Erie, Pa., boilers; M. Nelson Barnes, plumbing; George W. Walther Co., electrical work; Otis Elevator Co., elevators, all of Baltimore. William W. Emmart is the architect; Sandlass & Wieman, structural engineers, and Henry Adams, Inc., mechanical engineer, all of Baltimore. The project will also include a 100,000-gallon underground reservoir, for which contract has not been awarded.



# Turbines for Generating Power From Natural Gas

By C. H. JOHNSTON, Trenton, N. J.

**I**NASMUCH as it is desirable from the standpoint of natural gas production to hold some back pressure on the gas delivered from a well, it has been an obvious course to seek uses for the energy represented by this back pressure. The gas under pressure has been used in some instances in gas lifts for pumping other wells, also for repressuring other wells and for forcing the gas through pipe lines to points where it could be sold.

The gas as it comes from the well is known as "wet gas" and is passed through an absorption process which removes all gasoline content, together with water and dirt. Although the gas issues from the well at a much higher pressure, absorption plants are designed to operate at lower pressures, some at 400 to 500 pounds and others still lower.

In the Kettleman Hills field in California, an abundance of natural gas at a pressure of 400 pounds per square inch was going to waste, and this naturally

suggested its direct use in the turbines utilized in that field. The problem was submitted to the De Laval Steam Turbine Company of Trenton, manufacturers of the turbines, and engineers of that company after some research fitted the turbines with nozzles of special form in order to take advantage of gas expansion characteristics, which are different from those of steam. The gas comes from one of the largest producing wells in California and reaches the turbines at around 275 pounds per square inch. As the owner of the plant had a contract to supply fuel gas to neighboring drilling rigs at 70 pounds pressure, the nozzles were designed to expand the gas to 75 pounds back pressure. At other plants, as in the Elwood field, turbines are operated at pressures as low as 45 pounds.

The turbine installation has now been in operation for over two years and has given uninterrupted service. The turbines, when opened recently for inspection, showed no wear whatsoever on in-

terior parts, such as nozzles, guide vanes, buckets, etc. All pumping for circulation of oil and water is performed by gas turbine driven pumps. In the majority of the plants in the Kettleman region there is more than enough gas available to do all pumping, including rich and lean oils, wild gasoline to stabilizers, and water over cooling towers and through compressor jackets. Some 15 or 20 additional gas driven turbines have been installed in various plants.

## 1,070,000 Cubic Yards Dredging

Biloxi, Miss.—Bids will be opened June 19 by the United States District Engineer, Mobile, Ala., for dredging approximately 1,070,000 cubic yards of material in Mississippi Sound, Bay of Biloxi and Back Bay, Biloxi. The total distance covers about 6.5 miles, which will be dredged to a depth of 10 feet at mean low tide and a bottom width of 150 feet. An overdepth of two feet will be allowed.

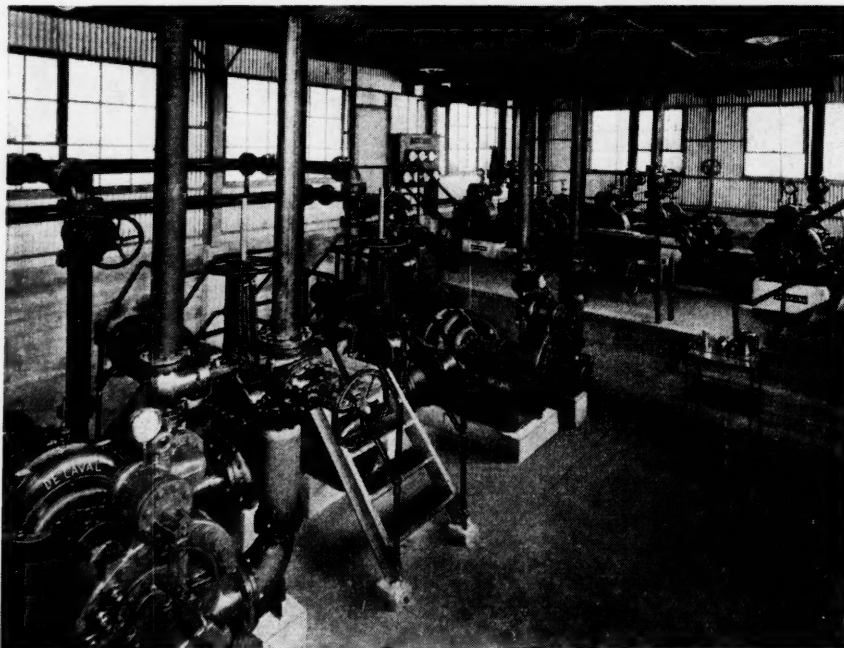
## \$3,000,000 Gas Pipeline

Memphis, Tenn.—The Memphis Natural Gas Co. has completed surveys and purchased right-of-way for a West Tennessee natural gas pipe line extension through Covington, Ripley, Brownsville and Jackson. The line will run northward from Memphis to Ripley, then eastward to Jackson. Gas mains and compressor stations are estimated to cost \$2,000,000, and various distribution systems another \$1,000,000. Construction contract has been awarded to the Ford, Bacon & Davis Construction Co., Inc., New York, a division of Ford, Bacon & Davis, engineers of that city. Distribution of the gas will be transferred to the West Tennessee Power & Light Co., New York.

## Encourages Cotton Bagging Use

S. Odenheimer, president of the Lane Cotton Mills, New Orleans, has notified the Association for the Increased Use of Cotton, Columbia, S. C., that the Lane mills in order to encourage the use of cotton bagging will allow nine pounds extra weight on cotton covered with standard cotton bagging. Harold C. Booker, secretary of the association, has pointed out that the fact that jute bagging on a bale weighs more has been a deterrent factor in the use of cotton bagging. In order to overcome this factor it has been indicated that some mills might allow the extra weight and the Lane mills are the first to inform the association of their willingness to do this.

Organizations are being formed in the



Pump Room in High Pressure Absorption Plant in California

De Laval turbines receive natural gas at pressures around 275 pounds, the back pressure varying from 75 pounds per square inch down to atmosphere.

cotton belt to promote the use of cotton in the South. The Texas division of the association has been organized. A strong committee, of which Governor R. S. Sterling is one of the members, was appointed to push the campaign for members. Nathan Adams, prominent Dallas banker; Dr. T. O. Walton, president of Texas A. and M. College; C. S. E. Holland, president of the Houston National Bank; John E. Owens, vice-president. Republic National Bank, Dallas; W. L. Clayton of Houston and John W. Carpenter, president of the Texas Light and Power Company, are other members of the organization committee of 40.

"The movement seems to be sweeping over the South," said Mr. Booker, "and we are encouraged to believe we are going to get very definite results in the next few months in the way of increasing the consumption of our chief crop."

### \$500,000 STATION PLANS APPROVED

Part of \$5,000,000 Railway Project in  
Oklahoma City

Oklahoma City, Okla.—Plans have been approved by the State Corporation Commission for a \$500,000 passenger station to be erected here by the Atchison, Topeka & Santa Fe Railway, H. W. Wagner, chief engineer, Topeka, Kans. This is a part of a track elevation and other improvement program estimated to cost \$5,000,000 to be undertaken by the railroad. The city government's approval of the plans will now be sought, it is said, so that work may begin within a few weeks. Final plans for track elevation will be filed with the Commission this week and specifications submitted for the station about 30 days later. Work on the station will not be started until the elevation job is well under way, so that both jobs may be completed at the same time.

The new station will be 386 feet long, including wings, by 104 feet wide. Elevated tracks will be almost on a level with the upper floor and passengers will use a stairway to reach the trains. Adjoining the main waiting room, there will be a waiting room for negroes, 25 by 44 feet. In the north wing, there will be a restaurant and in the south wing all space will be devoted to baggage and express quarters. A rotunda on the upper floor will be surrounded by more than a dozen bedrooms for employes and by offices for railway officials. Plans indicate that the tracks will be about 17 feet above ground level, on an earth embankment supported by concrete retaining walls. City council has approved an expenditure of \$350,000 in connection with the elevation of the tracks.

## Creosoting Plant Completed

The new plant of the American Creosote Works (New Orleans), at Jackson, Tenn., occupying 40 acres of ground with four miles of railroad through the yard, provides storage facilities for 600,000 ties and for large quantities of poles and lumber. The creosoting cylinder and the treating tanks are housed all in one building for simplicity of operation.

The cylinder is eight feet in diameter and 150 feet long and is capable of treating three carloads of material in one charge. A compound air compressor with a capacity of 1000 cubic feet per minute supplies air pressure for the cylinder; when a pressure of about 40 pounds is reached, a centrifugal pump with a capacity of 2500 gallons per minute is used to fill it. As the oil in the cylinder reaches a pressure of 100 pounds per square inch, the large pump is shut off and a small pump is used to bring the pressure to 250 pounds. This is maintained throughout the treatment period, a regulator on the high pressure pump insuring uniformity.

When the oil is released a vacuum of 26 inches is drawn, steam jet vacuum equipment being used and requiring only 15 minutes for the operation. At the

proper time, the vacuum is broken and the charge is pulled from the cylinder to be loaded on cars or stored in the yard. Steam power is supplied by two 175-horsepower return tubular boilers. Storage for the creosote oil consists of four 80,000-gallon flat bottom steel tanks. In addition to treating equipment there is a complete adzing and boring machine, a timber sizer and other machinery. The storage yard has a gradual natural slope toward the river providing specially favorable drainage conditions.

Main building was erected by the Kirby-Williams Steel Co., Jackson, Tenn., and the following firms supplied material and equipment:

**Track Work**—Hooper & Picou, New Orleans, La.

**Cylinder and Tanks**—Chicago Bridge & Iron Works, Birmingham, Ala., and Chicago, Ill.

**Air Compressor**—Ingersoll-Rand Co., New York

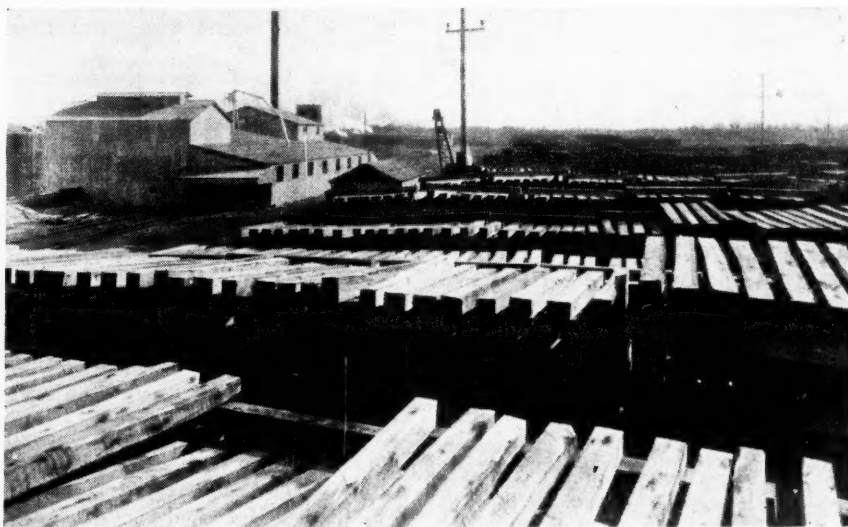
**Centrifugal Pump**—Dayton-Dowd Co., Quincy, Ill.

**Steam Turbine Pump**—Moore Steam Turbine Co., Wellsville, N. Y.

**Vacuum Equipment**—Elliott Co., Pittsburgh, Pa.

**Adzing and Boring Machine**—Greenlee Bros. & Co., Rockford, Ill. (Transferred from another plant)

**Water Softening Equipment**—Permutit Co., New York.



Extensive Yards of American Creosote Works at Jackson, Tenn.

Facilities include storage accommodations for 600,000 railroad ties. The plant is shown in the left background

### 200-Crypt Mausoleum Projected

Salisbury, Md.—Salisbury Parish has awarded contract to the Atlantic Mausoleum Company, Harrisburg, Pa., George Schneider, local representative, to erect

a mausoleum in Parsons Cemetery near Salisbury, of 200 crypts. The structure will cover 5000 square feet and will be of light gray granite, lined with white marble and equipped with bronze fittings and stained glass windows.



## \$5,000,000 Louisiana Capitol Under Way

Progress is noted on the \$5,000,000 Louisiana State Capitol under construction at Baton Rouge. The building is being erected by the George A. Fuller Company, general contractors, New York and Washington, after plans and specifications by Weiss, Dreyfous & Seiferth, Inc., New Orleans. The first four floors are 340 by 150 feet; the next two are smaller, and above these the tower is 70 by 70 feet. Seventeen floors are designed for offices. Construction will be of steel and reinforced concrete, with Rockwood Alabama selected buff stone exterior over a white granite base, the



New State Capitol Being Erected at  
Baton Rouge, La.

structure to be supported by piles. Main floor will be finished in marble, tile and terrazzo on the interior, with bronze door trim and grill. Walls will be of brick, and interior partitions and floors of hollow tile. Mechanical equipment will consist of a vacuum steam heating plant, ventilation, ice water system, concealed lighting, steel water tank in the tower and boilers for either gas or oil. Major sub-contracts have been awarded as follows:

**Excavation**—Potts & Callahan, Baltimore, Md.  
**Piles and sheet piling**—Doullut & Ewin, Inc., New Orleans  
**Waterproofing**—D. S. Melvin, New Orleans  
**Reinforcing steel**—Washington branch of Concrete Steel Company, New York  
**Reinforced concrete**—Putman Construction Company, Washington  
**Tile arches**—National Fireproofing Corporation, Chicago  
**Plaster**—Maroney & Middleton, New Orleans  
**Cast Stone**—Edward D. Boyle & Company, New Orleans  
**Selected Rockwood buff limestone (120,000 cu. ft.)**—Rockwood Alabama Stone Company, Russellville, Ala.  
**Granite**—Cold Spring Granite Company, Company, Cold Spring, Minn.  
**Stone setting**—D. A. Daly, Inc., Philadelphia

**Carpentry**—Matthews Brothers Manufacturing Company, Milwaukee, Wis.  
**Hollow metal doors**—Dahlstrom Metallic Door Company, Jamestown, N. Y.  
**Glass**—E. W. Ulrich Glass Company, Inc., New Orleans  
**Ornamental iron**—Price-Evans Foundry Corporation, Chattanooga, Tenn.  
**Structural steel erection**—Petroleum Iron Works Company, Houston, Tex.  
**Finished hardware**—Woodward Wight & Company, Ltd., New Orleans  
**Bronze, including windows**—Newman Manufacturing Company, Cincinnati, O.  
**Marble and stone**—Candoro Marble Company, Knoxville, Tenn.  
**Tile**—General Tiles, Inc., Baton Rouge  
**Terrazzo**—A. J. Colfry Art Terrazzo Company, New Orleans  
**Acousti-Celotex**—Acousti Specialties, Inc., New Orleans  
**Structural steel**—Lukens Steel Company, New Orleans  
**Vault doors**—Diebold Safe & Lock Company, Canton, O.

Contracts have been awarded also to the American Heating & Plumbing Company, Inc., for plumbing and heating; to Evans Brothers, Ltd., for electrical equipment; the Otis Elevator Company for elevators; the Utley Paint Company for painting structural steel, and to the Samuel House Wrecking Company, Inc., for clearing site, all of New Orleans.

## Real Estate Index Slightly Up

The regular monthly index figure computed from realty deeds recorded in 64 cities by the National Association of Real Estate Boards for April was 62.0. The March figure was 61.7. The basis is the figure 100, used for deeds recorded in the year 1926.

## \$3,500,000 South Carolina Loan

Columbia, S. C.—South Carolina loan notes in the amount of \$3,500,000 have been sold to the People's State Bank of South Carolina, Columbia, on the basis of 2.88 per cent and a premium of \$10. Proceeds of the notes will be used to pay Confederate pensions, school expenses and other ordinary expenses of the state government.

## \$1,000,000 Louisville Apartment

Louisville, Ky.—Plans for the construction of a 14-story apartment building at 1249 South Third street, estimated to cost \$1,000,000, have been announced by Louis Benjamin, owner of the property and president of the Roseland Holding Corporation, organized to erect the structure. Drawings and specifications are being prepared by Joseph & Joseph, associated with Walter G. Wagner, all of Louisville, and construction is expected to get under way within a few weeks. The base of the building will be 190 by 125 feet, and the set-back type of architecture employed. A ramp-type garage to accommodate 100 cars will be erected in connection with the structure. The project will be financed by the L. N. Rosenbaum Co., Inc., New York.

## McQuiston to Take World Cruise

A continuous advertising administration of 29 years in the Westinghouse Electric and Manufacturing Company has been closed by the retirement of J. C. McQuiston, general advertising manager. For 35 years Mr. McQuiston had watched and in large measure engineered many changes in advertising and sales promotion, distribution and other phases of his profession. No one has done a bigger job in creative, constructive thought and action to put advertising in its rightful place in business administration and upon a higher plane of ethics and conduct.

From the outset of his career, Mr. McQuiston's slogan was, "Advertising must be truthful," and to this he later added, "Advertising and selling must go hand in hand." In his advertising administration, he supervised the disbursement of millions of dollars for his company, and as an influence in the Association of National Advertisers he was a constructive figure in business life.

Following his retirement, June 1, Mr. McQuiston will start on an extended world cruise with his family.

## Florida Citrus Research Laboratory

Alive to the possibilities of improving their industry by research, citrus fruit growers of Florida in eight communities have offered free land and liberal facilities to aid in the establishment, by the United States Department of Agriculture, of a citrus by-product laboratory, for which the last Congress made an appropriation. Sites so offered have been inspected by Dr. W. W. Skinner, Assistant Chief of the chemical and technological research unit of the Bureau of Chemistry and Soils, and Dr. F. C. Blanck, principal chemist in charge of the food research division of the same bureau. The choice of a site for the new field laboratory is expected to be announced soon.

## Drilling for Sulphur

McHenry, Miss.—Sulphur drilling operations in Stone County, about three miles from McHenry, have been undertaken by the Hercules Sulphur Exploration Corporation organized by H. R. Fine, Frank Blanc and F. A. Robinson. Exclusive sulphur rights have been obtained on 12,000 acres in Stone County and about 10,000 acres in Harrison County, including 1840 acres in the former county leased from J. H. Lang of Pass Christian, Miss.



# LETTERS FROM OUR READERS

## Reports Increased Sales

Louisville Varnish Company, Inc.  
Louisville, Ky.

### Editor Manufacturers Record:

Our May sales up to the 16th showed an increase when compared to the previous months of this year, as follows: January, 204 per cent; February, 121 per cent; March, 89 per cent; April 72 per cent. The large part of these sales continues to go to manufacturers of quasi-luxuries, which is a good indication.

P. H. CALLAHAN.

## Further Business Suggestions

DeCourcy W. Thom  
405 Maryland Trust Building  
Baltimore, Md.

### Editor Manufacturers Record:

In an article in the MANUFACTURERS RECORD, August 1, 1929, I suggested: A fortnightly "settlement day," adapted from the English practice, and a very largely increased volume of purchases of commercial bills by member banks and by all the other financial institutions, save the Reserve banks, with a very careful discrimination in favor of sound enterprises and against unsound ones. The fortnightly inspection and checkings and settlements on "settlement day" would educate as to the actual credit situation, just as the increased bill purchasing program would educate generally the public utilization of credit and very usefully defer to "settlement day" very much of the need for borrowing which now asserts itself daily.

Of course, acceptances should constitute the chief part of the commercial bills and equally, of course, the Reserve banks should from time to time buy or not buy acceptances, as might seem best for the general financial program in which they are the national leaders. I am glad to be affirmed on these points by Melvin A. Traylor, president of the First National Bank of Chicago and Paul M. Warburg. I had not known of such support until I read the Associated Press Dispatch of May 12, 1931, quoting them on the subject.

But, the practices I recommend seem to me to be only a part of the mechanism needed to get us out of the present bog of business depression, in which business machinery seems to be almost at dead center. Along this line I summarize my thoughts into the following form incited by the first paragraph quoted from another in that article:

We are in the midst of a severe business depression, which is world-wide. The most serious obstacle in the way of early recovery is the state of our foreign trade. The most serious obstacle in the way of the revival of our foreign trade is our high protective tariff. The quickest way to get out of the existing depression is to reduce our tariff, so that our foreign customers may sell more goods here and get more dol-

lars with which to pay interest on their debts to us and with which to buy our goods. If we do not buy we cannot sell. If we do not buy enough we cannot sell enough.

The predominant bad business influence is the present incomplete liquidation of the great war. How, most and most quickly, can our country help in the stabilization, first, of world-wide business, and, second, of business throughout the far-flung territory of the United States of America? As to the first phase, after mastering the facts and figures involved, our permanent tariff commission should appropriately report to the President, who then should decide how the flexible-tariff 50 per cent variant can be applied to help stabilize our foreign trade, area by area, generally by lowering, but sometimes, perhaps, by raising it. As to the second, in the effort to cure present bad conditions within our country, there should be arranged:

(a) All the necessary facts and figures connected with each species of business in the United States;

(b) The careful determination by each village, town, city, county, state, territory or outlying possession of the United States, and within the United States as a whole, as to what economic developments would be forced upon them respectively within the next few years, so that without delay they would now use their respective credits to get sufficient funds to begin and speedily accomplish those developments and thereby afford employment, develop the market for supplies and promptly yield themselves great economic benefit;

(c) The setting up, without delay, in each one of the respective areas of a clearing house, as it were, where those needing work could register and where there shall have been registered as fully as possible a list of all the agencies needing to have such and such work done for them;

(d) The institution of some such plan as that now being successfully worked, I understand, in several great corporations, to determine what is the soundly estimated demand for their respective products and then attempt to produce at that ratio, so as to avoid peak and valley production in order to avoid the laying off of employees.

One feature of this effort is the transferring of redundant labor from one big branch to another branch where there is a demand for an increased number of workers. In addition, there is the use of reserve funds, produced by a small monthly payment from the employees matched by an equal amount from the employing organization and augmented by interest from any part of the fund not required to be loaned to employees.

The public area indicated under head "b" and the employer and the employee, by equal small payments, should all three of them likewise create a fund which, according to actuarial calculations, would provide against the sickness,

starvation or lack of housing of employees who, having reached the age of, say, 70, have no such income as the small payment would indicate.

It seems to me that the main part of our business depression persists through lack of concerted, and almost self-evident, methods for removing it, primarily, in the United States and, secondly, elsewhere largely by the utilization of the power of the United States exercised through tariff changes.

DeCOURCY W. THOM.

## A Profitable Investment

E. P. Cuthrell,  
Hardwood and Block Floors,  
(Licensed by Bruce Oak Flooring Co.)  
Birmingham, Ala.

### Editor Manufacturers Record:

I have changed my address from Columbus, Ga., to Birmingham. I would not do without your magazine for many times its price. It has proved very profitable in my business.

E. P. CUTHRELL.

## A Nation-Wide Tax List

### Suggested

Georgia Power Company  
Columbus, Ga.

### Editor Manufacturers Record:

Your editorial, "More Tax Payers and Less Taxes," May 14, is one of the most appropriate, sensible and constructive suggestions with reference to this vital subject that I have ever seen in print. It coincides so exactly with my own opinion as to an equitable solution of a very necessary evil, confronting not only those upon whom this burden now falls, but also every loyal citizen of this great country. I have frequently advocated such a plan, for a number of years past.

I believe that in all justice and equity every citizen should bear some slight part of the burden of taxation, not only to his country, but also to the state in which he resides where such state requires an income tax. The adoption of such laws as would include every citizen for taxable purposes would result in a complete roster of every citizen, good, bad and indifferent; rich and poor alike; the honest man who pays his just debts and the criminal, the bootlegger and all that vast army of crooks and people who shirk their responsibilities and unload their just burdens of taxes upon the shoulders of the innocent and upright man who feels a pride in being a loyal citizen of the greatest and most progressive country on the face of the earth.

I hope the ideas you express may fall upon fertile and responsive soil and grow into such an insistent and compelling demand as to result in final adoption.

G. K. HUTCHINS.

# IRON, STEEL AND METAL MARKET

## Production of Steel Shows

### Further Decline

Pittsburgh, June 1—[Special.]—After several weeks of slow decrease in steel production, last week showed a larger decrease, at least two points from a 44 per cent rate of ingot production to not over 42 per cent. The high point, with about a 56 per cent rate, occurred ten weeks earlier, there being just 25 per cent decrease in tonnage. Roughly speaking, the rate is now down to that of the second week in January. The ascent was very steep and so has been the descent. In point of direction and time both movements were strictly seasonal, in accordance with the general precedent, but the extent was very unusual and almost unprecedented.

Swings in general business did not account for either movement, for general business has been almost stationary. The curious thing is that the big swing in steel was by no means foreseen. At the close of the old year the prevalent idea was that on account of conservatism of buyers, and other considerations, there would be only a slow increase in steel tonnage, but that it would be continuous, possibly even riding over the usually dull midsummer period without any decrease. Now the chances are about even whether July will be above or below last December. To equal last December would involve a 36 per cent rate as against last week's 42 per cent.

Conditions will be all the more favorable for a marked seasonal improvement, beginning immediately after July, as all autumn improvements have done in recent years. Everything will have been well shaken out. The increase will produce a more favorable aspect all around, but a merely seasonal increase could not possibly give the steel industry an efficient and economical operation, as not less than 65 per cent is commonly regarded as necessary for that. Foundation will presumably be laid for much better business next year.

Decrease in steel production in the last two weeks is due chiefly to lighter rail releases and much smaller buying by the automobile industry, which reached its high rate for the time being about a month ago and has sustained the rate to date but is marked for a substantial decrease this month. While the time between steel production and assembly of an automobile has been greatly shortened in the last two or three years it still averages two to

three weeks, and thus steel production has already felt the prospective decrease in automobile production, a seasonal decrease that is coming later than usual. There has also been a further decrease in rail rolling releases at Chicago district mills. The Colorado rail mill however has started for a three weeks' run.

Line pipe business this season is proving quite disappointing. There has been a moderate run of orders, all told, since the first of the year, but a summary shows that nearly all the orders were by companies that can do their financing themselves, there being several oil lines and some orders for continuing natural gas lines that were started last year. In the last six months many inquiries have come out for line pipe for natural gas and gasoline and other projects have been talked of, without any inquiry, but these have required more or less public financing and that has been difficult or impossible.

Finished steel prices are not making much of a showing one way or the other. Merchant bars are holding very well, as there has been no decline from the December level and mills are having a little success in securing a dollar a ton advance on small current orders. Plates and shapes are chiefly a matter of prices done on large structural and other jobs, such prices not being divulged. There were heavy concessions from the open market last year and concessions may be heavier in some cases this year. Sheets are just a shade easier. Nails are definitely lower than two or three weeks ago, an inside price of \$1.80 formerly made only to a few large distributors being now more widespread, and even retailers and consumers can buy carloads at \$1.90.

## Adding to Surplus Stocks of Pig Iron

Birmingham, Ala., June 1—[Special.]—Cautious buying of pig iron or the policy of buying only against needs of the near future continues in this section. Production is being curtailed. Addition to the surplus stock on furnace yards has been under way for some little time and while not increasing at a rapid rate, yet there is too much iron being produced. Nine blast furnaces have been making foundry iron recently, three on basic and one recarburizing iron. Independent producers are in position to furnish both sand cast and machine cast iron.

Base price of pig iron remains firm, \$12 to \$13, No. 2 foundry. While very little is being said as to the price on iron for shipment to other districts it is understood that \$11, f. o. b. furnaces, is the base. Very little iron has been sold recently for shipment outside the South.

Cast iron pressure pipe and fittings manufacturers have been asked to bid on several specifications which promise to bring about distribution of some tonnage. The pipe makers are still the steady melters and their trade is looked to by furnace interests.

Difficulties continue to beset the efforts of Southern furnace companies to broaden their markets. Complaint has been filed with the Interstate Commerce Commission against the low freight rate by rail and water from the Birmingham district to Atlantic coast ports, reaching territories contiguous to Baltimore, Philadelphia, New York and Boston, where in the course of time there is considerable iron melted. This rate has been in effect for more than a year and a half and is scheduled to continue until September. The Interstate Commerce Commission has ruled against Southern carriers who had fixed a special freight rate on cast iron pipe to reach Southeastern and Gulf coast ports for movement of pipe to the Eastern markets. The larger percentage of pipe and fittings produced in the United States is manufactured in the Southern territory, Alabama and Tennessee being large producers. The statistics show that pipe in reaching a market must make at least 320 miles in transportation before striking the bulk of the demand. From that point the distribution includes a wide area. The proposed rates would have given the Southern manufacturers a good break on big business.

Foundries in the South are melting iron in depressed tonnage. Numerous small jobs are reported but the aggregate is not requiring much iron.

Steel mill operations in the Birmingham district are around 50 per cent capacity, or a little better. Ensley Works of the Tennessee Coal, Iron & Railroad Company still has a little unfilled tonnage on rails and indications are that the present month will see steady operation at the pace which has obtained for the past few months. Sheet and plate shapes are not as active as a short time ago and structural contracts are coming in in smaller tonnages. Shops fabricating structural shapes still keep up the pace of four days a week.

The first of 10 barges being built at



the Alabama Dry Docks and Shipbuilding Co., Mobile, has been launched. These barges are for the Inland Waterways Corporation for the Warrior river barge line, Birmingham-made steel being used and the Ingalls Iron Works Co. doing the fabricating. The government is spending nearly \$600,000 on the 10 barges being built in Alabama.

The coke market is holding its own, domestic coke lagging a little. Upwards of 925 ovens of the 1390 of the by-product coke works of the district are in operation. Foundry coke is held at \$5 per ton and independent producers are piling but a small amount.

The scrap iron and steel market is dull, the prices are low and weak. Heavy melting steel is held at \$9 for better quality. Car lots of the product are seen moving now and then.

#### PIG IRON

No. 2 foundry, 1.75 to 2.25 per cent silicon, \$12.00 to \$13.00; No. 1 foundry, 2.25 to 2.75 per cent silicon, \$12.50 to \$13.50; iron of 2.75 to 3.25 per cent silicon, \$13.00 to \$14.00; iron of 3.25 to 3.75 per cent silicon, \$14.50 to \$15.00.

#### OLD MATERIAL

Steel rails .....	\$10.00 to \$11.00
Steel axles .....	12.00 to 12.50
Iron axles .....	12.00 to 12.50
Heavy melting steel.....	8.00 to 9.00
No. 1 cast.....	9.00 to 10.00
Stove plate .....	7.00 to 8.00
No. 1 R. R. wrought.....	8.00 to 8.50
Car wheels .....	8.00 to 9.00
Tramcar wheels .....	8.00 to 9.00
Machine shop turnings.....	5.50 to 6.00
Cast-iron borings .....	5.50 to 6.00
Rails for re-rolling.....	11.00 to 12.00

### Copper Sales Reach High Figure at Record Low Price of 8½ Cents

New York, June 1—[Special.]—Metal prices have tended lower over the past week. Index numbers pertaining to commodity prices in general are lower also, but metals (ferrous and non-ferrous) along with building materials, were the most largely responsible for the lower prices. Copper has sold in the domestic market at 8½ cents, the low point for all time. Sales for the week have reached 25,000 tons, the largest for a long period, much of this business being placed at the new low price. The export price was reduced ¼c per pound on Wednesday of the past week to 9.025c per pound, c. i. f. European ports, the lowest price at which Europeans have ever bought American copper.

The price of zinc declined \$1 per ton on Wednesday to 3.25c per pound, East St. Louis, which coincides with the low point of two or three weeks ago. Tin sold early in the week at 22¾ cents per pound, later at 22½ cents, the lowest figure since 1899 when 19½c was the bottom point. Lead has been steady

and unchanged at 3.75c per pound, New York, and 3.60c, East St. Louis. Silver is fairly steady at the lower price levels, or at 26½c per ounce. Platinum is the only metal to advance, sellers having put into effect a \$5 per ounce increase to about \$26 per ounce, having become "tired of the low prices prevailing."

Industrial conditions generally do not make for active metal markets. The steel industry's operating rate is declining rather rapidly just now, the general average being around 42 or 43 per cent of capacity. It is stated now that automobile production in May will possibly not have exceeded that of April.

Judging by the recent inquiries and awards for fabricated structural steel the building industry is slumping. Awards are averaging 20,000 tons weekly as against an average of 40,000 tons weekly for recent times. Most of the pending business in structurals is for construction of bridges in which non-ferrous metals do not figure. However, there are several college buildings as active projects where the metals will figure in the form of plumbing, decorations, and so on.

The lead situation appears to be the soundest among the non-ferrous metals. Production and consumption appear well balanced and there has been considerable lead purchasing, the feature of which is that most of this lead is for June shipment, spot demands being disregarded. It would imply that lead consumers calculate that prices are at bottom and are now purchasing in a speculative manner. Among purchasers the past week have been the makers of pigments, batteries, lead sheets and lead pipe. Prices are very steady, with no shading whatsoever. So confident are many lead users that prices will not go lower that they are guaranteeing buyers of their products against further price declines. A prominent manufacturer of white lead for the paint trade, for instance, guar-

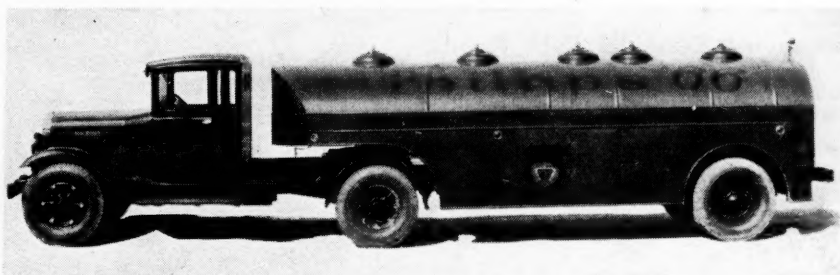
antees against price declines through August.

Metal statistics for May will soon appear. The world's visible supply of tin as of May 31 will be known today and an increase is expected. Copper statistics will appear at the middle of the month and a substantial gain in surplus stocks will probably be shown, possibly the highest stocks since the war.

A New York investment house has made a study of costs of production of copper among American properties and finds that these in 1930 ranged from 7½c to 10.87c per pound before depreciation. The same observer states that the average cost of production of African mines is 8 cents per pound but that in a year or two this average should be reduced to 6 cents, all of which should furnish Arizona with ammunition in its movement to interest Congress in a duty on copper. So far Arizona appears to be the only copper producing district which is interested in such a duty, at least it is the only state which is openly agitating such a move. It is suggested that labor in other states may be interested in a duty and may be heard from later.

It continues to be rumored that a further reduction in copper production is being planned. However, according to the best opinion, this curtailment will be voluntary and individual and not through a general agreement such as was consummated last November. It will probably mean that high cost producers will shut down and that only the low cost producers will continue in production. It has been rumored at New York that meetings of copper producers were being held here, but as near as can be learned only informal groups met in connection with the visit here of two representatives of the Katanga company in Africa.

Though the price of slab zinc has declined somewhat, prices of zinc ore hold firmly at \$20 per ton for the fifth week. Lead ore is unchanged at \$30 per ton.



Truck Trailer Unit of Phillips Petroleum Company

The unit includes a 2500-gallon Standard Steel Works tank, mounted on a Lapeer-Trailmobile unit, and powered by a Dodge Brothers truck-tractor. General tires, mounted on Dayton wheels, are used



# HIGHWAYS AND MOTOR TRANSPORT

## \$6,500,000 Highway Letting

Columbia, S. C.—Bids will be opened June 9 by the State Highway Commission on 47 road projects, estimated to cost \$6,500,000. The proposed work includes 10 projects calling for 148 miles of concrete paving; 9 projects for 160 miles of bituminous surfacing; 15 grading projects calling for 194 miles, and 13 bridge projects.

## \$1,750,000 for County Roads

Clayton, Mo.—Acting upon recommendations of township committees and Roy Jablonsky, county engineer, the St. Louis County Court plans to expend the remaining \$1,750,000 of a \$10,000,000 road bond issue voted in 1927. Approximately 65 miles of additional roads will be built, making a total of 245 miles of hard surfaced roads from the bond issue. The construction of 25 miles of farm-to-market roads and 14 miles of roads to be built with state refunds, will give the county about 285 miles of paved roads.

## \$526,000 Paving Certificates

New Orleans, La.—Paving certificates in the amount of \$526,000, to carry out the first part of New Orleans' 1931 program, have been sold to a group of New Orleans banks consisting of the American Bank and Trust Co., the Whitney banks, the Canal Bank & Trust Co., the Interstate Trust & Banking Co. and the Hibernia Securities Company. The purchase price was 99.40 for 4½ per cent certificates, the highest price received by the city in recent years for its certificates. The issue sold includes \$511,000 for permanent paving and \$15,000 for temporary surfacing.

## Shenandoah National Park Road

Efforts are being made by the Bureau of Public Roads, United States Department of Agriculture, Washington, to rush the survey and preparation of plans for a proposed road to traverse the middle section of the Shenandoah National Park, according to Thomas H. MacDonald, Chief of the Bureau, so that work may be advertised shortly after the first of June. This road will extend from Thornton Gap to Swift Run Gap along the crest of the Blue Ridge Mountains, and in addition to its great scenic value,

will open up areas to tourists and campers, not far removed from Washington and Baltimore and surrounding territory. Work planned for this year will consist of grading and drainage of approximately 37 miles, with a 600-foot tunnel near Marys Rock.

## \$1,500,000 Bonds for Roads

Little Rock, Ark.—State Treasurer Roy Leonard has been instructed by the State Debt Board to sell \$1,500,000 bonds to repay the State Highway Department for funds advanced to finance loans by the state to agricultural credit corporations under the Toland farm re-

lief act of 1931. Bids for the issue will be opened June 24, and funds from the sale will be used on road contracts already under way or about to be started.

## Postpone Date of Bids on Bridge

The Public Belt Railroad Commission, New Orleans, La., Frank H. Joubert, secretary-treasurer and general manager, which recently announced that it would open bids June 4 for the construction of a combined railroad and highway bridge across the Mississippi River at New Orleans, has postponed the date of opening bids on the structure, for which Modjeski, Masters & Chase, New York, are the engineers.

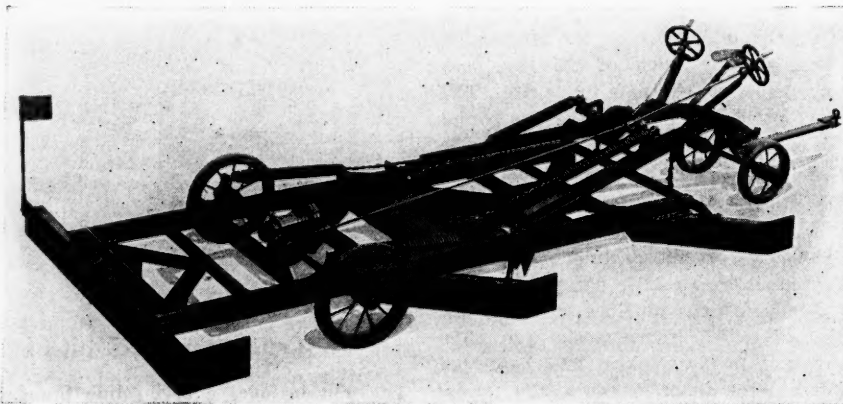
## Retread Mixer for Road Construction

For several years, multiple-blade road maintainers as produced by the J. D. Adams Company, Indianapolis, Ind., have been widely used for mixing bituminous materials, such as asphalt, tars and road oils with gravel, stone and slag aggregates on "mixed-in-place" construction.

The company has now introduced a machine known as a retread mixer, similar to the maintainer, but with several new features. In the retread mixer the blades are 12 inches wide, and are set to provide sufficient throat room for a 2½ to 3-inch course of material. Three sets of blades placed at a 45-degree angle work the material, which has been previously "shot" with bituminous binder. A long rear blade then

spreads the material evenly to the required thickness. Mixing blades are rigidly mounted on the main frame, set just to skim the base and pick up and mix all the material. The rear blade is adjustable 3 inches vertically, to spread the course to the required depth; it is made in three sections which can be adjusted so that a slight crown may be obtained if desired. All right hand blades have forward extensions to prevent the mix spilling out of line.

Advantages claimed for the Adams retread mixer are that it mixes and levels the material in one operation, and that it produces a smooth riding surface, free from waves and irregularities, because of long wheel base and rigidly mounted blades.

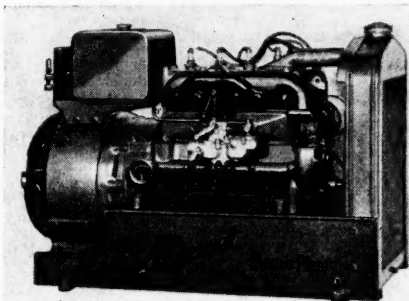


Mixes the Material and Levels It in a Single Operation

## NEW AND IMPROVED EQUIPMENT

### Compact Electric Plants

The Universal Motor Company, Oshkosh, Wis., has introduced a new line of compact gasoline motor driven electric plants. Extreme compactness is emphasized by the fact that the 1KW marine type unit measures 35¼ inches by 15¼ inches by 20½ inches over all and weighs only 300 pounds. In stationary type units, compactness is further emphasized by lowered radiators, made possible by driving the fan directly from the crankshaft. The plants are driven by a small and powerful four-cylinder gasoline engine, with precision balanced crankshaft and flywheel and reciprocating parts. Electrical parts are designed especially



Small Self-Contained Model

for the engine and built as a unit with it. Auto type starting and remote control are features. The new models will be known as series AU, made in 1 and 2 kilowatt d-c., 32-110-220 volts, for use with or without storage batteries, and the a-c. type in 1½ kv-a, 110-220 volts.

### Portable Rotary Air Grinder

H. S. Covey, secretary of the Cleveland Pneumatic Tool Company, Cleveland, Ohio, announces a new type of portable rotary air grinder as an addi-



Has Single Rotor Concentric With the Arbor

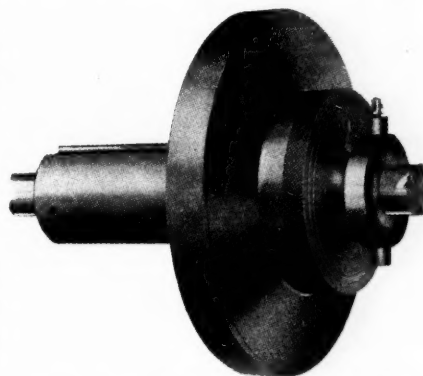
tion to the company's line of air-operated tools. It is made in several sizes and styles for general grinding in foundries, automobile plants, locomotive and car shops, for finishing steel dies, tire moulds and for general grinding where a portable tool may be used to advantage. This new Cleco grinder has a

single rotor concentric with the arbor, to insure balance at all speeds, the rotor being provided with four longitudinal slots to accommodate four separate blades. As one blade of the set is always exposed to the air current, a constant rotation is established. A governor controls the amount of compressed air used, as well as the flow of lubrication.

### Safety Disc Friction Clutch

A completely enclosed, safety disc friction clutch, the Diamond "D," has been introduced by the Dodge Manufacturing Corporation, Mishawaka, Ind. The clutch is designed for machinery applications as well as power transmission service; it is compact, with a large friction area to insure development of full rated horsepower under practical unit pressure. Asbestos friction discs with ground faces are used. The clutch is fully enclosed in both engaged and disengaged positions. One point adjust-

ment is provided, and a heavy slip ring is used which is easy to lubricate and is available in either bronze or ball bearing types. A powerful self-locking mechanism



View of Clutch in Engaged Position

ism allows easy and positive engagement and disengagement, while the clutch is held to close tolerances in manufacturing operations, insuring accurate assembly, balance, uniform throw, convenient adjustment and complete interchangeability of parts.

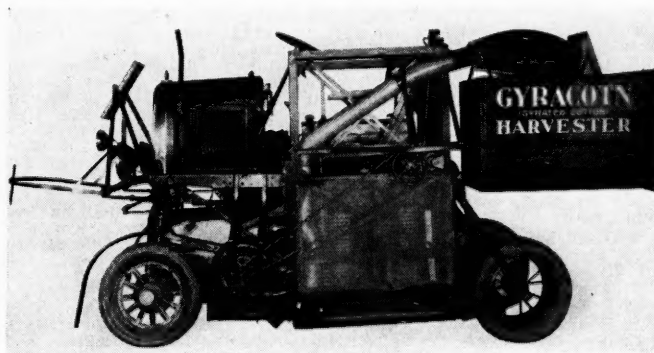
### Mechanical Cotton Picker

Geo. R. Meyercord and Associates, Chicago, have under construction a number of the 1931 model of their Gyrocotn harvesting machines, for demonstration in cotton fields this fall preparatory to production of 500 to 1000 units for the 1932 season. Important features of the 1931 model are said by the makers to include the following: Picking units, which gather 85 to 90 per cent of the open cotton, either wet or dry, without damaging or staining the cotton or without damaging the green plant, bolls or blossoms; an operating speed of four to five miles an hour which permits the picking of an acre or more of cotton each hour; a construction which permits its use in almost all types of cotton not over five feet in height; simplicity,

which permits its use and repair by average farm labor.

Bulletin No. 290 of the Mississippi Agricultural Experiment Stations, A. & M. College, Mississippi, comments on the machine as follows:

"It operates at any speed up to 5 miles an hour. Under fair conditions on the Delta Station farm it has shown a coverage of an acre an hour. Its operation is not materially impeded by normal growth of vines, weeds, grass, etc. It picks about 75 per cent of the available cotton, as grown in 1930, at a single passage of the machine over the rows. These machines covered 448 acres in different parts of the Delta in 1930. Of this, 152 acres were picked a second time making a total of 600 acres from which 148 running bales were picked. In a normal year the yield from the same acreage would have been more than twice as much."



Gyrocotn  
Harvesting  
Machine, for  
Which the  
Manufacturers  
Claim a  
Number of  
Important  
Features



# CONSTRUCTION DEPARTMENT and NEW ENTERPRISES

Covering the initial announcements of new undertakings with additional information about enterprises previously mentioned. The date at the end of an item indicates preliminary facts were given in a previous issue.

When writing to a new firm or corporation the name of at least one of the incorporators should be placed on the envelope to expedite its handling by the local postoffice. Mail may be delayed unless complete address is given.

Building and Construction Proposed and Contracts Awarded; Manufacturing, Mining, Power, and Land Developments; Public Works; Transportation; Communication; Financial Enterprises; New Business Opportunities Reported in the Sixteen Southern States.

The Daily Construction Bulletin of the Manufacturers Record gives each business day advance news published in this weekly review. It is invaluable to those requiring prompt information. Subscription price \$40.00 a year.

## Airports, Airplane Plants, Etc.

Ark., Texarkana—American Airways, Inc., 122 E. 42nd St., New York, improve airport, including grading, construction of runways.

D. C., Bolling Field, Anacostia—Constructing Q. M. opens bids June 15 for clearing 346 acres for flying field.

D. C., Anacostia—Bureau of Yards and Docks receives bids June 17 for barracks and boiler plant, Naval Air Station; conc., brick, hollow and vitrified tile, granite, limestone; radial brick chimney, struc. steel slate roof.

Fla., West Palm Beach—Palm Beach Greyhound Association, Inc., chartered; M. D. Carmichael, Citizens Bank Bldg.; W. W. Mott; L. M. Carmichael; to operate airports; also incorporated Palm Beach Racing Association, general amusements.

Ga., Atlanta—City soon take bids on \$50,000 administration building, Municipal airport.

Ga., Brunswick—Glynn County Comms., Malcolm B. McKinnon, Chmn., interested in establishing airport.

La., Barksdale Field, Shreveport—Capt. George E. Lamb, Constructing Q. M., expects plans and specifications to be prepared in 30 to 60 days for streets and storm water systems and for construction of underground telephone lines. 5-28

La., Barksdale Field, Shreveport—Forgy, Hanson & McCorkle, Lake Charles, have contract at \$37,900 for sewer system. 5-21

La., Barksdale Field, Shreveport—K. C. Wilson, Slattery Bldg., Shreveport, low bidder at \$97,840 for construction of one paint, oil and dope house, one photographic laboratory, radio and parachute buildings, and post exchange and utilities building. 5-28

La., New Orleans—Orleans Levee Board, A. L. Shusan, Pres., make changes in original plans for municipal airport under construction on shore of Lake Ponchartrain; increase size of hangars, to be 300x120 ft., instead of 140x100 ft.; relocate site of \$100,000 administration building; John Klorer, Ch. Engr., of board. 3-19

La., Shreveport—Constructing Q. M., Capt. George E. Lamb, Barksdale Field, receives bids June 9 for technical buildings to cost \$100,000; also probably ask bids within 60 or 90 days on construction of five all-steel hangars, steel for which has been purchased from Belmont Steel Co. 5-28

La., Shreveport—Constructing Q. M., Capt. George E. Lamb, let contract to R. V. Brookfield for sodding and preparing 50 acres at Barksdale Field.

Mo., Kansas City—See Water Works.

Mo., Kansas City—American Eagle-Lincoln Aircraft Corp., organized by consolidating American Eagle Aircraft Corp., Rickel St. and American Eagle Rd., Kansas City, and Lincoln Aircraft Co., Inc., Lincoln, Neb.; center production at American Eagle plant; Victor H. Roos, Pres. and Treas.

Okl., Oklahoma City—Oklahoma Aviation Service, Inc., Municipal Airport, erect 1-story hangar, 120x140 ft.; include repair facilities and office unit; \$35,000; Langbein & Johnston, Archt., Hightower Bldg.

Tex., Big Sandy—U. S. Dept. of Commerce establishing emergency landing field.

Tex., Del Rio—City making improvements to municipal airport; lighting by Central Power & Light Co., Frost National Bank Bldg., San Antonio.

Tex., El Paso—Dept. of Commerce, Washington, let contract to Airports Engineering & Construction Co., Love Field, Dallas, at \$48,558, to install beacons on El Paso-Phoenix airway.

Tex., Harlingen—City erect hangar.

Tex., Laredo—H. A. McFarland, representative of the American Automobile Association, submitted proposal to Mayor Albert Martin and City Council to develop 364-acre municipal airport site for first class landing field circled by an automobile speedway. 5-21

Tex., Palestine—City, S. R. Buchanan, City Engr., voted \$20,000 bonds to purchase and equip aviation field; S. E. Reed Mayor. 4-30

Tex., Randolph Field—Constructing Q. M., Capt. Arthur W. Parker, has low bid of \$228,746 for paving hangar aprons, bids opened May 22; 1½-in. bituminous wearing surface on 8-in. rolled gravel base. 5-7

Va., Langley Field, Hampton—National Advisory Committee for Aeronautics opens bids June 15 for one hangar extension to Full-Scale Wind Tunnel, Requisition 1234; 61x74 ft., conc. floor, steel framework, corrugated asbestos cement roofing and siding.

Va., Langley Field, Hampton—Constructing Q. M., Fort Monroe, receives bids June 15 for 11 Air Corps hangars, connecting bays, annexes and boiler houses, Langley Field; following estimators: Newport Contracting & Engineering Co., Lee Hall; Davis Brothers, Inc., 1716 Summit Ave., Richmond; Roanoke Iron & Bridge Works, Walnut Ave., S. E., Roanoke; Harwood Construction Co., Law Bldg., H. & L. Electric Co., Noland Co., Inc., 328 28th St., all Newport News; R. R. Richardson & Co., Inc., Natl Bk. of Commerce Bldg., Globe Iron Construction Co., Princess Anne Rd., Park Ave., Cullon & Bell, Inc., 20 Commercial St., all Norfolk; Ingalls Iron Works Co., 720-4th Ave., S., Birmingham, Ala.; Nicola Building Co., Penn Ave. & Bennington St., East Liberty, Pittsburgh, Pa.; North-Eastern Construction Co., 812 Nissen Bldg., Winston-Salem, N. C.; Jewell-Riddle Co., Inc., Sanford, N. C.; Belmont Iron Wks., 22nd and Washington Sts., Geo. H. Evans, Inc., 1416 Vine St., both Philadelphia, Pa.; Joe B. Martin, 211 Kinney Bldg., Charlotte, N. C.; A. S. Bacon & Sons, Schwarz Ave., Savannah Ga.; Worsham Brothers, Empire Bldg., Knoxville, Tenn.; Crane Co., 1225 I St., N. W., Washington, D. C.; M. H. Sobel Co., First Natl. Bk. Bldg., Detroit, Mich.; Charles T. Taylor, 17 S. King St., Hampton, Va.; McClintic-Marshall Co., Baltimore Trust Bldg., C. W. Schmidt, 226 Hearst Tower Bldg., Consolidated Supply Co., 1102 N. Charles St., all Baltimore, Md.; Enterprise Co., Inc., Ocean View, Va.; B. Miffin Hood Brick Co., Daisy, Tenn.; W. F. Jackson, Inc., 207 Bldrs. Bldg., Richmond, Va.; J. E. Ogden Co., 147-1st St., Newport News, Va.; The Warner Serboth New York; Virginia Engineering Co., 49 Cedar St., Eternit, Inc., 95 Madison Ave., vice Co., 102 W. Clinch Ave., Knoxville, Tenn.; Hall-Hodges Co., Inc., 806 Citizens Bank Bldg., Building Supplies Corp., 1900 Monticello Ave., both Norfolk; A. H. Guion & Co., Inc., Gastonia, N. C.; Smith-Pew Construction Co., Inc., 435 Irwin St., N. E., Atlanta, Ga.; J. F. Fitzgerald Construction Co., 38 Chauncey St., Boston, Mass.; J. S.

Thorn Co., Allegheny Ave. and 20th St., Philadelphia, Pa., Townsend Lumber Co., N. Towers St., Anderson, S. C., Batson-Cook Co., West Point, Ga.

Va., Manassas—City, Harry P. Davis, Mayor, establish airport; 94 acres, two miles from city on State Highway 709. 5-28

Va., Marion—Mitchell Flying Service, incorporated; W. T. Mitchell, Pres.; J. P. Buchanan, Atty.

## Bridges, Culverts and Viaducts

### Proposed Construction

Fla., Inverness—Citrus County Comms. approved plans by Keith Kimmel for bridge over Salt River between Crystal River and Ozelto; applied to War Dept., Washington, for permit.

Fla., Jacksonville—Duval County repair bridge over Arlington River, 200 ft. of which was burned.

Kentucky—See Roads, Streets and Paving.

Mo., New Madrid—See Drainage, Dredging and Irrigation.

Mo., Samos—U. S. Engr. Office, 1006 McCall Bldg., Memphis, Tenn., opens bids June 16 for labor and materials, except cement, and performing all work for reinforced conc. culvert under Missouri Pacific R. R., in connection with Bird's Point-New Madrid Floodway Drainage System.

Oklahoma—State Highway Comsn., Sam R. Hawks, Chmn., Oklahoma City, plans \$25,000, 7-span, 112-ft. conc. rein. trestle, Beaver County; A. R. Losh Highway Engr.

Texas—State Highway Comsn. plans 2 bridges. See Construction News—Roads, Streets and Paving.

Tex., Beaumont—City, Emmett A. Fletcher, Mayor, advises election for issuing bonds for building proposed viaduct through city has not as yet been ordered and no definite plans have been accepted.

Tex., Brownsville—Cameron County, care C. F. C. Ladd, Harlingen, taking bids for \$75,000, conc. steel vehicular bridge over Arroyo Colorado, Harlingen.

Tex., Houston—City, J. M. Nagle, City Engr., plans \$45,000 rein. conc. bridge over Brays Bayou, 75th St.

Texas—State Highway Comsn. plans 9 bridges. See Roads, Streets and Paving.

West Virginia—State Road Comsn. receives bids for 3 bridges. See Roads, Streets and paving.

### Contracts Awarded

D. C., Washington—Director of Public Buildings and Public Parks of National Capital let contract to National Construction Co., Arlington Memorial Bridge, Potomac Pk., at \$40,200, for Waterside Dr. overpass. 5-28

Md., Ellicott City—Baltimore & Ohio R. R., H. A. Lane, Ch. Engr., Baltimore, let contract to Seaboard Construction Co., Real Estate Trust Bldg., Philadelphia, Pa., for superstructure of bridge.

Mo., Webster Groves—Missouri Pacific R. Co., E. A. Hadley, Ch. Engr., St. Louis, let contract to Winston Bros. Co., Buder Bldg., St. Louis, for substructure of double



track conc. and steel viaduct to carry tracks over Lockwood Ave.; total cost, \$70,000, to be borne by railroad, St. Louis County and St. Louis Public Service Co., 3869 Park St., St. Louis. 4-23

Oklahoma—State Highway Comsn., Sam R. Hawks, Chmn., Oklahoma City, let contract to W. L. James, Hugo, at \$28,183, for 9-span 132-ft. rein. conc. bridge Sulphur, Murray County. 4-23

### Canning and Packing Plants

Tex., Nacogdoches—R. E. Causey has contract to erect canning plant for James A. Killian, of Marshfield, Mo. 5-14

### Clayworking Plants

N. C., Penland—Carolina China Clay Co., capital \$100,000, incorporated; W. B. Deneen, Bakersville; C. H. Bailey, Penland. 4-23

### Coal Mines and Coke Ovens

Ky., Evarts—Dandy Darby Coal Co., chartered; Henry Turner, J. T. Middleton. 4-23

Ky., Lexington—Turner-Elkhorn Mining Co., increased capital \$70,000 to \$100,000. 5-14

### Concrete and Cement Plants

La., Alexandria—Alexandria Culvert Co., Inc., Sixth and Jackson Sts., installing equipment from Shearman Concrete Pipe Co., 201 W. Clinch St., Knoxville, Tenn., to produce daily 50 tons of conc. culverts and sewer pipe. 5-21

### Cotton Compresses and Gins

Ala., Attalla—Southern Automatic Sprinkler Co., Birmingham, A. S. Cobbs, Pres., installing sprinklers in cotton warehouse of South Eastern Compress Co.; building 500x115 ft., with capacity of 15,000 bales of cotton. 5-21

Fla., Marianna—Williams Brothers, E. K. Williams, Andalusia, Ala., erect cotton gin. 5-21

Ga., Vidalia—Farmers Gin Co., J. B. Warthen, T. W. Bray, erect gin; electrically operated, daily capacity 100 bales cotton. 5-21

Tex., Galveston—Cotton Concentration Co., Commerce Bldg., let contract to Johnson Brothers, Guaranty Bldg., for two new storage sections; \$75,000; conc., 360x330 ft. 5-28

### Drainage, Dredging and Irrigation

Ala., Mobile—U. S. Engr. Office opens bids June 20 for dredging approx. 5,620,000 cu. yd. material in Mobile Bay Channel. 5-28

Louisiana—Bd. of State Engrs., 277 New Orleans Court Bldg., New Orleans, opens bids June 16 for Reid-Bedford Canal No. 2, Madison Parish, 5000 ft. long, 22,000 cu. yd. 5-28

Louisiana—Bd. of Commrs., Fifth Louisiana Levee Dist., Richard K. Boney, Sec., Tallulah, opens bids June 16 for Glascock Pit drainage, Concordia Parish, (5 pieces of work) 1000 ft., 6000 cu. yd.; Grinnel Lake Bayou Roundaway Drainage Canal, Madison Parish, 29,000 ft., 223,000 cu. yd. 5-28

Mo., New Madrid—Drainage Dist. No. 23, W. E. Davis, Dist. Engr., probably let contract in 30 days for 186,974 cu. yd. excavating, 164 cu. yd. fills, removing 45 ft. vit. pipe, building 4 conc. catch basins, installing drain pipes and flood gates, building new bridge, remodeling steel bridge, clearing right-of-way. 5-14

Mo., Point Pleasant—Drainage Dist. No. 12, W. E. Davis, Dist. Engr., plans 1,194,347 cu. yd. excavation, 363 cu. yd. fills, clearing 15 mi. right-of-way, removing and salvaging drain pipes, building bridge, reconstructing 7 steel bridges. 5-14

Mo., Sikeston—Morrison Drainage Dist., W. E. Davis, Dist. Engr., Pt. Pleasant, plans 104,298 cu. yd. excavation, clearing 6 mi. right-of-way, building 3 25-ft. wooden bridges, 1 30-ft. wooden bridge, 100 ft. 12-in. corrugated pipe; 100 ft. 18-in. corrugated pipe. 5-14

Texas—U. S. Engr. Office, Galveston, has low bid from Standard Dredging Co., 323 Guaranty Bldg., Galveston, and 233 Broadway, New York, at \$394,260, for dredging Sabine River-Galveston Bay section of Louisiana and Texas Intracoastal Waterway through Jefferson County and part of Chambers County, from point about 6614 ft. west of Port Arthur Canal. 4-16

### Electric Light and Power

Electric light and power work in connection with many LAND DEVELOPMENT operations involves the expenditure of large sums of money. See that classification for details.

Kentucky—Federal Power Comsn., Washington, granted preliminary permit to South-

ern Industries and Utilities, Inc., Robert H. McNeil, Natl. Press Bldg., Washington, for hydro-electric plant on Tennessee River at Aurora Landing; corporation plans expending \$40,000,000 for project, which will have a primary capacity of 94,000 h. p.; as proposed a high dam will replace four low dams and extend 9-ft. navigation to Pickwick Landing on Big Bend Shoals, a distance of 169 miles; dam and power house will be located in Kentucky, although a greater part of reservoir will be in Tennessee; proposed dam to have earth fill wings and normal lift of 50 ft.; to have floodgates for flood control; length to be 6009 ft., including 1939 ft. spillway; installation in power house to have capacity of 165,000 kw. (227,000 h. p.) W. G. Waldo, Pres. 1-29

La., Baton Rouge—Additional subcontracts on boiler being installed at plant of Louisiana Steam Products, Inc., subsidiary of Engineers Public Service Co., Inc., 90 Broad St., New York; Water purifying equipment, Permutit Co., 440 4th Ave., New York; auxiliary turbines, The Terry Co., Hartford, Conn.; draft fans, B. F. Sturtevant Co., 18 Damon St., Hyde Park, Mass.; steel stack, R. D. Cole Manufacturing Co., 65 E. Bank St., Newnan, Ga.; steel, now practically erected, from Converse Bridge & Steel Co., 2408 Vance Ave., Chattanooga, Tenn.; 1,382-h. p. boiler, water walls, superheater, economizer, air preheater from Babcock & Wilcox Co., 35 Liberty St., New York; Stone & Webster Engineering Corp., 40 Federal St., Boston, Mass., in charge of work. 4-6

Md., Elkton—Northern Maryland Power Co., furnishing electricity throughout Cecil County and Conowingo Electric & Power Co., furnishing current through large portion of Harford County completed plans for merger of two companies under name of Conowingo Electric Co., headquarters Elkton; subject to approval of Public Service Commission, Baltimore. 4-6

Mo., Macon—Bd. of Public Works, L. T. Dameron, Jr., Sec., opens bids June 9 for 750-kw. turbo-generator, 800-h.p. water tube boiler, forced draft chain grate stoker, surface condenser with auxiliaries, cooling tower; plans by Baumes-McDevitt Co., Const. Engr., Railway Exchange Bldg., St. Louis. 4-6

Md., St. Michaels—Eastern Shore Public Service Co., Salisbury, taking bids on electric generating plant; Henry Sterling, Engr., care of owners. 4-6

Okla., El Reno City to vote July 2 on granting electric franchise and to sell municipal electric distribution system to Oklahoma Gas & Electric Co., 321 N. Harvey St., Oklahoma City. 4-6

Texas—Tennessee Coal, Iron & Railroad Co., Brown-Marx Bldg., Birmingham, Ala., has contract for 2000 tons of reinforcing steel to be used in Hamilton hydro-electric plant being constructed on Colorado River by Emery, Peck & Rockwood Development Co., 818 Scarborough Bldg., Austin; Pegles Construction Co., Ltd., Contr., Minneapolis, Minn.; Fargo Engineering Co., Const. Engr., 120 W. Michigan Ave., Jackson, Mich. 4-23

Tex., Beaumont—Gulf States Utilities Co., 362 Liberty St., Beaumont, started surveys and probably start work June 15 on \$80,000 power line extension on Bolivar Peninsula to serve High Island oil field; 26 miles, 33-kv. transmission line from Fannett to High Island; single wood pole structures for 20 miles, wood pole H-frame structures for six miles; terminate in steel outdoor substation at High Island. 5-28

Texas—Plants H-4 and H-5 of Hunt Development Co. recently acquired by Texas Hydro Electric Corp., Seguin, are now completed to point of installation of permanent electric generating equipment, and construction on Plant TP-4 just started; Sumner-Solitt Co., Col. F. G. Chamberlain, Managing Engr., National Bank of Commerce Bldg., San Antonio, Gen. Contr.; Fargo Engineering Co., Const. Engrs., Jackson, Mich., designing and supervising engr. 5-28

### Flour, Feed and Meal Mills

Okla., Oklahoma City—Garrison Milling Co., E. Pottawatomie Ave., has permit to erect tank; \$20,000. 5-28

W. Va., Charles Town—Ola G. Fries and associates purchased 36-acre tract southwest of Leetown; reported, erect flour mill. 5-28

### Foundry and Machine Plants

N. C., Burlington—R. E. Haynes, Beverly Hills, establish machine shop. 5-28

### Garages and Filling Stations

D. C., Washington—H. R. Blagg Co., 1229 E. Third St., Dayton, Ohio, low at \$772,000 on principal bid for enlargement of Capitol Grounds, Terrace, Fountain and Garage. 5-28

Ga., Atlanta—Contract awarded to A. K. Adams Co., 542 Plum St., N. W., for addi-

tion to service station, 222 Spring St., N. W., for Dobbs Tire Co., 222 Spring St., N. W. 5-7

Ga., Atlanta—Oakley Gas & Oil Co., Eighth and Peachtree St., N. E., erect filling station, 796 Ponce de Leon Ave., N. E.; 1 story, conc. block, comp. roof; owner Bldr. 5-7

Ky., Frankfort—Central Auto Parks, Inc., capital \$10,000; Harry Higson, Laurence L. Koch. 5-7

Ky., Harlan—Green Motor Co., capital \$15,000, chartered; J. S. Green, F. C. Mahan. 5-7

Md., Baltimore—Lord Baltimore Filling Stations, T. J. O'Connell, Engr. of Constr., American Bldg., plans brick and stucco filling station, York Rd. and Northway. 5-7

Md., Baltimore—Atlantic Refining Co., Keyser Bldg., Baltimore, and 260 S. Broad St., Philadelphia, Pa., erect filling station, Harford Ave., Oliver St. and Central Ave. 5-7

Md., Baltimore—Wm. Ganter & Associates, Knickerbocker Bldg., preparing plans for garage for Charles J. Meister, 2601 Pennsylvania Ave.; ready about Aug. 1; brick, 1 story, 160x146 ft. 5-7

Md., Baltimore—Jarman Motors, Inc., incorporated; Gilbert A. Jarman, 224 E. University Parkway. 5-7

Md., Havre de Grace—Lord Baltimore Filling Stations, Inc., T. J. O'Connell, Engr. of Constr., American Bldg., Baltimore, taking bids on alterations to filling station; following estimating: Laccchi Construction Co., Munsey Bldg.; Thomas F. Leonard, 3615 Brehms Lane, both Baltimore; W. S. Bailey, Churchville; James Davis, C. A. McCommons, Thomas Borneman, Havre de Grace; Harry Osburn, Joppa. 4-2

Miss., Jackson—Robinson Brothers enlarge building; conc. and brick, 28x86 ft. 4-2

Mo., DeSoto—Polite Motor Co., capital \$20,000, incorporated; W. R. Polite, Chas. W. Haverstick. 4-2

Mo., Drexel—Drexel Motor Co., incorporated; C. M. Tarr, 4318 Wyandotte, Kansas City. 4-2

Mo., Mansfield—Hutchings-Lahar Chevrolet Co., capital \$15,000, incorporated; E. W. Lahar, Boonville; J. Hutchings, Mansfield. 4-2

Mo., Kansas City—Continental Oil Co., 1737 McGee St., acquired site northeast corner Linwood Blvd. and Indiana Ave.; erect filling station. 4-30

Mo., Kirkwood, St. Louis—Winter Chevrolet Co., capital \$25,000, chartered; W. L. Beechktiegel, 8204 Page St., St. Louis County; J. F. Winter, Overland, Mo. 4-30

Mo., Perryville—Moore Chevrolet Co., incorporated; J. and Clyde Moore. 4-30

N. C., Canton—Champion Motor Co., capital \$50,000, incorporated; Weldon E. Williamson, Charles King. 4-30

N. C., Winston-Salem—Standard Oil Co., 406 Water St., has building permit to erect gasoline and service station, southeast corner N and First Sts.; \$25,000; brick and rein. conc. 4-30

Tenn., Knoxville—G. E. Webb, Webb Motor Co., 713 S. Broadway, erect filling station, Broadway and Cumberland St. 4-30

Texas—Humble Oil & Refining Co., Humble Bldg., Houston, construct system of gathering pipelines into northwestern Gregg County. 4-30

Tex., Cuero—Charles and Raymond Cook, agents of Texas Co., soon let contract for filling station, Broadway and Clinton Sts. 4-30

Tex., Palestine—Texas Co. leased service station sites, intersection of Elkhart-Tucker and Palestine Rds.; on Highway 19, and on Highway 43, in Neches. 4-30

Tex., San Antonio—William F. Schutz, 101 W. Commerce St., erect garage, Ninth St., between Broadway and Alamo St.; 1 story, 92x55 ft., struc. clay tile, struc. steel and rein. conc.; to be occupied by Collins & Neff Co., Akron, Ohio; R. Newell Waters, Archt., Weslaco; W. E. Simpson & Co., Engr., Milam Bldg. 4-30

Tex., San Antonio—Kneupper Garage & Body Works soon receive bids for 1-story, struc. steel, tile and stucco garage, Broadway and Casa Blanca; Ellis F. Albaugh, Archt., 941 Austin St.; J. W. Beretta Engineers, Inc., Engrs., 1203 Ntal' Bank of Commerce Bldg. 4-30

Va., Richmond—Factory Adjustment Tire Co., capital \$25,000, chartered; Aaron Gross, Atty., Mutual Bldg. 4-30

### Gas and Oil Enterprises

Fla., Fernandina—Pan-American Petroleum Corp., Main St., Jacksonville, construct open pile and timber wharf, 10x22 ft.; includes warehouse and 6x54-ft. approach. 5-7

Ky., Martin—Martin Gas Co., incorporated; J. R. Baker, Leo Loeb. 5-7

Miss., Canton—City Council plans receiving bids for gas franchise. 5-7

Mo., Mexico—City Council rejected ordinance to award 20-yr. natural gas franchise; may call election on alternate proposal to establish municipal gas distributing system; J. F. Jolley, Mayor.

Okla., El Reno—City votes July 2 on granting 21½-yr. gas franchise to Oklahoma Gas and Electric Co., 321 N. Harvey St., Oklahoma City.

Okla., Red Oak—City, granted natural gas franchise to Spiro Gas Co., subsidiary of LeFlore County Gas & Electric Co., Poteau; construct three miles gas pipeline from Yancy well.

S. C., Hartsville—Hartsville Gas Corp., incorporated with \$113,000 capital; H. G. Pagani, Pres., 45 E. 9th St., New York; W. S. Campbell, Vice-Pres.; to supply gas and electric facilities; Johnson-Church & Co., Engrs., 149 Broadway, New York. 10-30

Tenn., Covington—Memphis Natural Gas Co., Bank of Commerce Bldg., Memphis, awarded contract to Ford, Bacon & Davis Construction Co., Inc., 39 Broadway, New York, for laying west Tennessee extension; route includes Covington, Ripley, Brownsville and Jackson; \$3,000,000; start laying pipe in 10 days; survey work completed and right-of-way purchased; reported, contract placed for 110 miles 8-in. pipe, about 6000 tons, with National Tube Co., Youngstown, Ohio. 2-19

Tenn., Harriman—Harriman Gas Co., and Sunbright Pipe Line Co., both Harriman, incorporated with capital of \$150,000 and \$250,000, respectively; John A. and C. B. Jones; supply Harriman, Rockwood, Kingston and other communities with natural gas from Morgan county field.

Tex., Borger—E. L. Lantron and W. A. Huffman seeking gas franchise and will submit plans for new gas distributing system; W. B. Miser, 2223B Polk St., Amarillo, appointed consulting engineer for city.

Tex., Henderson—Como Oil Corp., capital \$75,000, chartered; J. B. Malone, A. G. Hinn.

Tex., Houston—Whittle and Kavanaugh's Third Co., capital \$75,000, chartered; Claude Kavanaugh, Esperson Bldg.

Tex., Houston—Mack Oil Co., capital \$100,000; chartered; J. O. Mack, Dr. W. E. Long.

Tex., Longview—Lacy Petroleum Co., capital \$42,000, chartered; W. F. Lacy, J. F. Stuckey.

Tex., Overton—Overton Refining Co., capital \$10,000, chartered; J. D. Wrather, G. C. Walters.

Texas—Gulf Coast Pipe Line Co., subsidiary of Houston Gulf Gas Co., Niolo Esperson Bldg., Houston, may build pipe line in East Texas.

Tex., Kilgore—Manahan Oil Co., capital \$50,000, chartered; G. A. Manahan, E. J. Bonner.

Tex., Mineola—Independent Refining Co., erect 1000-barrel refinery, West Madiola; \$500,000.

Texas—Sun Oil Co., 1608 Walnut St., Philadelphia, Pa., constructing pipe line in East Texas jointly with Yount Lee interests, let contract to Petroleum Iron Works Co., Island Pk., Beaumont, for 1220 tons of steel for four tanks. 5-28

Texas—Texas Co., 135 E. 42nd St., New York, construct pipe line into Gladewater area of Gregg County.

### Ice and Cold-Storage Plants

Mo., Kansas City—Heart of America Ice Co., incorporated; Glen W. Sharon, Francis Roach.

Tex., Alpine—Central Power & Light Co., Frost Bldg., San Antonio, let contract to Sumner-Sollitt Co., National Bank of Commerce Bldg., San Antonio, for 1-story ice plant addition; rein. conc. columns, footings, girders, floor slabs; tile and brick walls; wood platforms; John M. Marriott, Frost National Bank Bldg., all San Antonio.

Tex., Crystal City—Shippers Co-Operative Ice Co., organized by spinach growers in vicinity of Crystal City, has plans under way for \$200,000 ice plant to have daily capacity of 150 tons of ice and storage capacity of 5,000 tons.

Tex., Eagle Lake—Central Power & Light Co., San Antonio, let contract to R. H. Reese for ice storage vault addition and alterations to power and ice plant; John M. Marriott, Archt., 503 Frost Natl. Bank Bldg., San Antonio.

Tex., Refugio—Central Power & Light Co., plans retail ice station; 1 story, 28 x 14 ft., conc. found. and floor slabs; brick walls, cork roof construction; John M. Marriott, Archt., 503 Frost Natl. Bank Bldg., both San Antonio.

### Iron and Steel Plants

Md., Baltimore—Dietrich Brothers, 220 E. Pleasant St., expect to start work in June on fabricating plant addition, 28th and Reese Sts.; 1 story, 200x405 ft.; work includes conc. piling, capping, conc. floor, tile walls, conc. sills, wood and slag roof, steel sash; equipment includes spacing machine, electric hoist, pantograph machine, milling machine, grinder, straightener, riveting equipment; construction by owners; subcontracts not let. 4-23

### Land Development

Fla., Bradenton—First National Co., capital \$100,000; chartered; J. T. Campbell, E. P. Green, Sr.

Fla., Orlando—Dr. Karl Gebhard acquired 72-acre tract, Long Lake; develop for citrus grove.

Md., Baltimore—Joseph F. Moreland, Inc., 5405 Harford Rd., incorporated; Joseph F. Moreland; operate cemetery.

Md., Baltimore—Norway Realty Co., 915 E. Lombard St., incorporated; Jack Dunn, 915 E. Lombard St.

Md., Baltimore—Park Development Co., incorporated; J. Alban Eagers, 1615 Chilton St.

Md., Chevy Chase—Great Falls Farms Corp., 6 Quincey St., incorporated; Henry C. Sheridan, Washington Hotel; Abner H. Ferguson, Southern Bldg., both Washington, D. C.; Eris Powell, Chevy Chase.

Md., Montgomery County—Construction department of Sears, Roebuck & Co., Chicago, in cooperation with New York capitalist, reported, plans development of 72-acre tract at Braemar Forest for sub-division. See Building Contracts Awarded—Miscellaneous.

Md., Riverdale—Casa Loma Realty Co., 115 Jefferson Ave., incorporated; Albert Gustav Baer, Albert Samuel Roebuck.

Mo., St. Louis—Decker Realty Co., 3204 Grand Ave., incorporated; A. L. Krodringer, 7330 Lyndover Pl.

Mo., St. Louis—Jefferson Gravois Co., capital \$50,000, incorporated; George A. Held, 4475 W. Pine St.

Mo., Versailles—Sunrise Beach Development Co., incorporated; Harve W. Turner, Phil A. Bennett, Springfield, Mo.

S. C., Rock Hill—Barnes Realty Co., capital \$50,000, chartered; E. L. and F. S. Barnes.

Tex., San Antonio—A. M. McNally, 508 Aztec Bldg., representing promoter in development of Ivanhoe Heights subdivision.

Va., Pennington Gap—Elk Knob Land Co., capital \$75,000, incorporated; B. T. Young, Duffield; Earl C. Laningham, Atty., Pennington Gap.

Va., Purcellville—Wheatland Farms, Inc., capital \$50,000, chartered; George A. Grill, Pres.

### Lumber Enterprises

Fla., Indiantown—Long Leaf Lumber Co., American National Bank Bldg., Beaumont, Texas, rebuild burned sawmill. 5-7

La., Clayton—Atlantic Lumber Co., Boston, acquired plant, logging fleet and timber of Holloway Sawmill Co.

Miss., Belzoni—Y. D. Lumber Co., consolidated with Humphreys County Lumber and Manufacturing Co.; operate as Y. D. Lumber Co.

N. C., Elizabeth City—Foreman-Blades Lumber Co. rebuild plant burned at loss of \$150,000.

S. C., Florence—Sparrow Lumber Co., Inc., H. G. Sparrow, Pres. and Mgr., erect plant to replace burned establishment; produce 40,000 ft. yellow pine lumber daily; 1 story, planing and saw mill and sheds. 5-28

### Metal-Working Plants

Mo., Kansas City—Puritan Manufacturing Corp., capital \$10,000, incorporated; J. C. Randolph, Gentry, Ark.; D. Motron, Kansas City; aluminum cooking ware, utensils.

### Mining

Ky., Paducah—Paducah Sand Co., capital \$15,000, incorporated; Steve Click, W. F. McMurry, Jr.

La., New Iberia—Jefferson Lake Oil Co., New Orleans Bank Bldg., New Orleans, Arthur Barba, Sr., Pres., plans erecting plant of 2,000 h. p. capacity for producing sulphur from Lake Peigneur deposit; work to start as soon as engineers complete design; specifications to call for furnishing equipment complete; probably add other units from time to time. 5-28

Miss., Wiggins—Hercules Sulphur Exploration Corp., organized by H. R. Fine, Frank Blanc and F. A. Robinson, engaged in sulphur drilling operations in Stone County, about three miles northeast of McHenry; have exclusive sulphur rights on 12,000 acres in Stone County and 10,000 acres in Harrison County.

Okla., Picher—Eagle-Picher Mining and Smelting Co., subsidiary of Eagle-Picher Lead Co., 1006 Broadway, Arthur E. Bendelari, Pres., Cincinnati, Ohio, erect 3600-ton lead producing plant; cost \$400,000.

Tex., Houston—Houston Salt Co., Public Natl. Bank Bldg., now preparing plans for permanent plant and building at salt development near Hockley; probably construct through contractor, yet to be named, through whom machinery and materials will be purchased. 5-28

Va., Tabscott—Leo Faust plans expending \$250,000 to reopen and develop Waller gold mine.

### Miscellaneous Construction

D. C., Washington—District Comms., R. M. Brennan, Ch. Clk., Engineering Dept., advises all bids rejected for refuse incinerators and work will not be readvertised at present time. 3-26

Fla., Miami Beach—W. G. Potts, 2025 Collins Ave., let contract to G. O. Reed, Inc., 1345 20th St., for \$10,000 steel sheet piling sea wall.

Ky., Harrodsburg—War Dept., Jeffersonville Quartermaster Depot, Capt. George F. Spann, Constructing Quartermaster, Jeffersonville, Ind., advises \$100,000 memorial, Pioneer Park still in elementary stage, general plan not having yet been approved. 5-7

Louisiana—U. S. Engr. Office, Second New Orleans Dist., foot of Prytania St., New Orleans, opens bids June 25 for 11,000,000 cu. yd. earthwork under straight contract, designated as follows by item, name, kind of work estimated, yardage (cu. yd.), net height: Lower Tensas Dist.—R645-A, Hard Times-St. Joseph Levee, riverside enlargement, 570,000, 20 to 31 ft.; R645-B, same, riverside enlargement, 650,000, 26 to 31 ft.; R645-C, same, riverside enlargement, 710,000, 25 to 30 ft.; R645-D, same, riverside enlargement, 870,000, 18 to 31 ft.; R645-E, same, riverside enlargement, 740,000, 19 to 27 ft.; R645-F, same, riverside enlargement, 640,000, 17 to 28 ft.; R645-G, same, riverside enlargement, 740,000, 17 to 32 ft.; R664-A, Cottage Kampe Levee, new, 720,000, 27 to 30 ft.; R664-B, same, new, 720,000, 27 to 32 ft.; R664-C, same, new, 720,000, 22 to 29 ft.; R664-D, same, new, 700,000, 21 to 23 ft.; R664-E, same, new, 710,000, 22 to 30 ft.; R664-F, same, new, 710,000, 20 to 31 ft.; Atchafalaya Front Levee Dist.—798-B, Morrison-Picayuneville Levee, enlargement and riverside turnover, 740,000, 18 to 24 ft.; R839-A, Poplar Grove Levee, new, 220,000, 20 to 23 ft.; R639-B, same, new, 200,000, 20 to 23 ft.; R841, Homestead Levee, new, 500,000, 21 to 23 ft.; L100, Monsecour Levee, new, 140,000, 12 to 14 ft.

La., Lake Charles—Following contractors and material firms estimating on wharf unit No. 3 and sheds No. 4 and 5, bids due June 16 office Bd. of Comms., Lake Charles Harbor and Terminal Dist., Elmer E. Shutts, Engr., P. O. Box 665; Blattman Wesser Sheet Metal Works Co., 1001-1029 Toulouse St.; Merritt-Chapman & Williams, 833 Howard Ave., Southern Bldg.; Ingalls Iron Works Co., 811 Masonic Temple Bldg.; Thomas Carey (contractor), 214 Pan-American Bank Bldg.; Doullut & Ewin, 901 Queen & Crescent Bldg., all New Orleans; Petroleum Iron Works of Texas, Island Park, Beaumont; Kilby Car & Foundry Co., Anniston, Ala.; Don Hall (contractor), Union Natl. Bk. Bldg., Houston; J. S. Harrison Construction Co., 514 Liberty National Bank Bldg., Waco, Tex.; Thrall & Shea, 314 Plyo St.; Louisiana Western Lumber Co., Inc., South St.; Olivier & Son, 114 Bilbo St.; Knapp & East, Kaufman Bldg., all Lake Charles; Brown-Abbott Co., Inc., 705 Wilson Bldg., Dallas, Tex.; McClintic-Marshall Corp., 1546 Telephone Bldg., St. Louis, Mo.; Richmond Structural Steel Co., Inc., 17th and Dock Sts., Richmond, Va.; Laclede Steel Co., Arcade Bldg., St. Louis, Mo. 5-21

La., New Orleans—Bd. of Comms., Port of New Orleans, 200 New Courthouse Bldg., opens bids June 8 for new office structure and city delivery shed, Bienville St. Wharf; such work as conc. foundations, steel framing, steel rolling doors, steam heating, electrical work, sprinklers, floor finishing and shed for wharf have already been furnished by Dock Bd.; work include corrugated delivery shed 50x400 ft., 1 and 2 stories; occupying portion of shed will be additional extension at right angles 20x240 ft., which will be used as office; will require rein. conc. work, struc. steel work, tile partitions and



brick chimney, gypsum tile walls, asbestos roofing and siding, corrugated wire glass, sheet metal work, millwork, carpentry, caulking, hardware, plumbing, stucco, plastering, metal doors and frames, glazing, painting, built-up roof paving, etc.

Md., Baltimore—City, Buildings Engr., Municipal Bldg., has low bid from Henry L. Maas & Sons, 1119 Ensor St., at \$8370, for repairs to Broadway Pier. 5-21

Md., Easton—Kastenhuber & Anderson, Engrs., 204 Stewart Bldg., let contract to C. W. Sigman for 700 lin. ft. conc. seawall at Halcyon, property of P. A. Rose, Talbot County. 5-14

Md., Upper Marlboro—Prince Georges County Community Council adopted resolution asking report on advisability of trash disposal plant.

Missouri—U. S. Engr. Office, 428 Custom House, St. Louis, opens bids June 6 for constructing 100 to 2200 lin. ft. piling dikes, Missouri River, Bonhomme Bend, left bank, mile 40.

Mo., Kansas City—City, H. F. McElroy, City Mgr., voted \$1,000,000 bonds for Blue Valley flood protection and improvements, 10-year plan.

Mo., Kansas City—Following have sub-contracts in connection with wharf houses and escalator towers for City, Robt. W. Waddell, City Engr.: Raymond Concrete Pile Co., 140 Cedar St., New York; Truscon Steel Co., 611 Bryant Bldg.; Switzer Painting Co.; Lone Star Cement Co., 1608 Federal Reserve Bank Bldg.; Knapp Brothers Mfg. Co., 605 W. Washington; Havens Structural Steel Co., 1713 Crystal Ave.; E. C. Marqua Reinforcing Steel Co., 224 Finance Bldg.; R. V. Aycock Co., 1010 W. Meyer Blvd., tile tex floor; Walter Plastering Co., Sowers Taylor Co., 1817 Campbell St.; Henry Weis Mfg. Co., Elkhart, Ind., toilet partitions; now casting conc. piling; Louis Breitag & Son Construction Co., Gen. Contr., Ry. Exch. Bldg. 4-23

Okla., Oklahoma City—Garrison Milling Co., E. Pottawatomie Ave., has permit for \$20,000 elevator tanks.

S. C., Charleston—U. S. Engr. Office, Custom House, has low bid from Carpenter & Petrie, Citizens Bank Bldg., Norfolk, Va., at \$40,346, for repairing south stone pier, U. S. Engr. wharf. 4-2

Tenn., Fayetteville—U. S. Bureau of Fisheries, Washington, D. C., selected site on 650-acre tract 20 mi. southeast of here, known as Warren hollow, for fish hatchery; start work about June 15.

Texas—Kenyon-Kearns Feed Co., 93 N. Polk St., Amarillo, let contract to Star Engineering Co., Wichita, Kans., for 2 small elevators on Las Animas-Amarillo branch of Santa Fe at Cordaro and Frick. 5-21

Tex., Texas City—U. S. Engr. Office, Trust Co. Bldg., Tremont and P. O. St., Galveston, let contract to W. E. Callahan Construction Co., Kirby Bldg., at approx. \$468,000 for rubble mound dike on existing Texas City dike. 5-14

Va., Hampton Roads, Norfolk—Following have sub-contracts in connection with \$569,700 Pier No. 7, Naval operating base: Rein. steel, Jones & Laughlin Steel Corp., Ross St., Pittsburgh, Pa.; cement, Lone Star Co. of Virginia, Inc., National Bank of Commerce Bldg., Norfolk; sand and gravel, Richmond Sand & Gravel Corp., 3011 Dock St., Richmond; from lumber, M. T. Blassingham Co., Inc., 27th St. & Hampton Blvd., Norfolk; approx. 50% of conc. piles have been cast; majority of old pier demolished and conc. pile driving is to start about June 8; Merritt-Chapman & Williams Corp., Gen. Contr., Southern Bldg., 833 Howard Ave. 3-19

West Virginia—Tunnel—See Railways.

### Miscellaneous Enterprises

Ala., Birmingham—The Dr. Pepper Co., 429 2nd St., Dallas, Tex., has permit to construct \$65,000 manufacturing plant, 29th St. and Second Ave.; 60x128 ft., conc., 3 stories; Southern Construction Co., Inc., Contr., 615 S. 11th St. 3-5

Ark., Augusta—Augusta Advocate, Davis Fitzhugh, Editor, started erecting building; stucco, 1 story, 40x25 ft.; pressroom and composing room in basement; veranda in rear.

Fla., Babson Park—Producers Citrus Corp., capital \$20,000 K. H. Gerlach, E. J. Lonn.

Fla., Coral Gables—Harborn Construction Co., chartered; W. Harborn, 2618 N. Greenway Dr.

Fla., DeLand—DeLand Herald Co., chartered; C. Harper, H. G. Harper, publishing.

Fla., Lake Worth—Florida Pineapple Products, Inc., chartered; H. G. Basford, Palmetto Dr.; operate fruit groves.

Fla., Miami—Wafeteen Syrup Co., Inc., chartered; W. W. Bowen; T. H. Bowen.

Fla., Miami—Coconut Products Co., incorporated with capital of \$100,000; W. C. Hill, Pres., Third Natl. Bank; prepare pulp of coconuts for use in making ice cream; construct factory to employ 75 to 100 persons.

Fla., Sarasota—Standard Chemical Products Co., chartered; C. E. Hitchings, Bank of Sarasota Bldg.

Fla., St. Augustine—Dwyer-Gallagher Interests, owners of St. Johns' Park, plan extensive improvements.

Fla., St. Petersburg—Judges Florida Hats, Alhambra Arc. Mrs. Hilda R. Judges, Proprietress, acquired Arcade building, Arlington Ave. and Eighth St.; remodel, install additional machinery.

Fla., St. Petersburg—Western Supply Co., Inc., chartered; A. W. Harris, 1939 9th St., N. Fla., Daytona Beach—Jack Richards, owner Chapman Hotel, 124 Orange Ave., and Crystal Theater, and associates plan \$100,000 dog racing enterprise; include clubhouse, grandstand and boxing arena.

Fla., Tampa—Tampa Shipbuilding & Engineering Co., Estuary St., establish floating dry dock, 313x94 ft.; applied to U. S. Engineer office for permit to dredge area 413 by 124 ft. to a depth of 40 ft.

Fla., Winter Haven—Dept. of Agriculture, Chemistry Division, Dr. W. W. Skinner, Washington, D. C., may locate citrus by-products laboratory here.

Ga., Atlanta—Gaylord Container Co., 229 Grant St., S. E., erect building, Humphries St. and Southern R. R.; 1-story, 200x220, rein. conc., brick walls, steel sash; overhead doors; steel deck, tar and gravel roof; sprinklers; railroad platform 8x200 ft.; bids in.

Ga., Atlanta—Woodward Ave. Dairy, 9 Woodward St., S. E., to occupy \$15,000 dairy building to be erected by Chas. Lefkoff, 528 Grant St.; rein. conc. and brick; comp. roof.

Ga., Mount Airy—Fort Orchard Co. erect peach freezing plant; 2 stories, 50x80 ft., conc. found., struc. steel frame, brick; conc. slab roof with tar and gravel roofing; Frank Hartley Anderson, Engr., 2112 11th Court, S., Birmingham, Ala.

Ky., Covington—Ka-Tee Chemical Co., capital \$25,000, chartered; F. G. Tubbs, Charlotte E. Nichols.

Ky., Fulton—Art Style Dress Co., incorporated; S. C. Smith, A. M. Nugent.

Ky., Louisville—Cherokee Sanitary Milk Co., Inc., 1765 Bardstown Rd., increased capital \$20,000 to \$80,000.

La., Lake Charles—Union Sulphur Co. let contract for two 80,000-barrel steel storage tanks, Rose Bluff.

Md., Annapolis—Claiborne-Annapolis Ferry Co., Court of Appeals Bldg., Benjamin F. Sherman, Gen. Mgr., augment present ferry service between Annapolis and Eastern Shore of Maryland, by constructing new all-steel ferry; length of boat to be 221 ft. 6 in.; beam, 67 ft. 4 in.; have eight driveways, with carrying capacity of from 100 to 105 automobiles and trucks; to be propelled by two 1200-h.p. Diesel engines; will have speed of 18 knots; specifications being prepared by Maryland Dry Dock Co., Curtis Bay, Baltimore. 5-27

Md., Baltimore—Avon Construction Co., 216 E. Lexington St., erect transformer room, 1100 E. Baltimore St., for Henders Creamery Co., 1100 E. Baltimore St.

Md., Baltimore—National Dairy Products Corp., Inc., 1403 Eutaw Pl., plans laboratory addition, Eutaw St. and Lafayette Ave.; John R. Forsythe, 16 E. Lexington St.

Md., Hyattsville—Southern Building and Supply Co., incorporated; Harry K. Hobart, H. Winship Wheatley.

Miss., Lyman—I. J. Ringolsky, 911 Commerce Bldg., Kansas City, Mo., has cleared 200 acres, a mile west of Lyman, and has planted 17,000 blueberry trees and 5000 tung oil nut trees, several hundred fruit trees; may erect blueberry preserving plant in 1934. 5-28

Mo., Columbia—M. F. R. Dairy Products Co., incorporated; William Hirth, Columbia; J. Wiley Atkins, Lebanon.

Mo., Festus—R & P Express, Inc.; Henry W. Porter, Thomas C. Porter, transfer.

Mo., Kansas City—McKinley Printing & Binding Co., incorporated; Phil H. McKinley, 16 E. 68th St.

Mo., Kansas City—See Water Works.

Mo., Kansas City—Triploll Products Co., capital \$20,000, incorporated; L. A. Kelley, Sam H. Nichols; oil processing equipment.

Mo., St. Joseph—St. Joseph Nursery & Seed Co., incorporated; Geo. L. Welch, E. V. Scott.

Mo., St. Louis—M. J. Mathis Printing Co., incorporated; M. J. Mathis, 533 Hamilton St.

Mo., St. Louis—Firex Corporation, capital \$50,000, incorporated; John B. Marquis, 6328 Northwood St.; fire extinguishers and alarms.

Mo., St. Louis—Italian Marble Mosaic Co., capital \$25,000, incorporated; R. E. Newton, Kirkwood, Mo.; Holland, Lashly & Donnell, Central National Bank Bldg.

Mo., St. Louis—Precast Slab & Tile Co., incorporated; Holden Brock, 4258 McRee St.; James Brock, 220 S. Newstead St.; manufacture and erect precast slabs and tiles for building and roofing.

Mo., St. Louis—Mechanical Equipment Corp., incorporated; Thomas J. Wood, 7375 Amherst St.

Mo., St. Louis—Dawn, Inc., 206-08 Olive St.; Claud L. Russell, 8225 Toddy St.; creams, lotions, powders.

N. C., Charlotte—J. R. Purser, Sales Engineer, Inc., capital \$100,000; J. R. Purser, Commercial Bldg.

N. C., Charlotte—North -State Laundry, capital \$25,000, incorporated; Ralph P. Hasty, M. A. Allen.

N. C., Charlotte—Charlotte Storage Battery Co., capital \$10,000; incorporated; R. M. Bost, 202½ Central Ave.

N. C., Clinton—Turlington Bottling Co., capital \$20,000; incorporated; F. L. Turlington, Henry L. Turlington.

N. C., Elizabethtown—Columbia Peanut Co., Suffolk, Va., erect \$50,000 plant; produce peanut products; employ 75 persons.

N. C., Winston-Salem—Ferrell Shoe Co., capital \$50,000, incorporated; R. E. Ferrell, 511 Gale St., J. E. Jones.

N. C., Wilmington—Heide & Co., Inc., Alex Hoffman, Pres., 1 Nutt St., announced institution of freight steam service between Wilmington and European ports, including Hamburg and Antwerp.

N. C., Winston-Salem—Gordon Publishing Co., capital \$25,000, incorporated; A. G. Gordon, 602 W. First St.

Okla., Tulsa—Braden Steel and Winch Co., R. H. Bartlett, Pres., 1007 E. Admiral Blvd., to manufacture combine harvester perfected by P. J. Hanson; employ 150 additional men. S. C., Bennettsville—W. G. Hazel acquired weekly newspaper.

Tenn., Brownsville—Sunshine Cleaners and Launderers, capital \$10,000, chartered; H. S. Dupree, J. O. Bomer.

Tenn., Knoxville—Ocean Breeze Co., capital \$50,000, chartered; W. C. Anderson, Burnwell Bldg., soft drinks.

Tenn., Knoxville—Hall-Tate Manufacturing Co., capital \$100,000, chartered; Will S. Hall, 3041 Kingston Pk., clothing.

Tenn., Memphis—Cemeteries Corp., capital \$50,000, incorporated; J. L. Campbell, 225 S. Rembert St.

Tex., Amarillo—City erect public abattoir.

Tex., Orange—Spears Dairy, Inc., 1350 Park St., Beaumont, plans establishing pasteurizing plant, Orange County.

Va., Roanoke—Ice and Fuel Corp., capital \$15,000, chartered; George W. Chaney, Pres., Colonial National Bank Bldg.; operate refrigerated and dry storage plants.

Tex., Dallas—Superior Rug and Carpet Cleaning Co., chartered; W. F. Kieschnick, 5723 Marquita St.

Tex., Willow Springs—Globe Oil Tools Corp. of Texas, capital \$10,000, chartered; E. H. Wilson, J. F. Lucey.

### Motor Bus Lines and Terminals

Ala., Tuscaloosa—Muscle-Shoals-to-Mobile Bus Line, W. W. Brandon, Pres., Tuscaloosa, applied to Alabama Public Service Comsn., Montgomery, for permission to establish 360 miles of bus routes; touching Florence, Sheffield, Tuscumbia, Fayette, Tuscaloosa, Greensboro, Demopolis, Thomasville, Jackson, Mt. Vernon and Mobile.

Mo., Kansas City—Westport Taxi Co., capital \$10,000, chartered; Ethel Crowell, 3847 Wyandotte St., Blaine Taylor.

Mo., Moberly—Orschlen Bros. Truck Lines, Inc., capital \$20,000, incorporated; E. J. and Will Orschlen.

Mo., St. Louis—Plaza Express Co. incorporated; Paul Katz; Joseph Boxerman, Central Natl. Bk. Bldg.



Tex., Fort Worth—J. C. Duvall, B. Burnett Bldg., Fort Worth, and J. L. Lilley, Glen Rose, granted permits to operate bus service between Fort Worth, Cleburne and Glen Rose.

W. Va., Clarksburg—City, Dr. L. M. Robinson, City Mgr., interested in establishment of central bus terminal.

### Railways

Md., Baltimore—Pennsylvania R. R., W. W. Atterbury, Pres., Philadelphia, Pa., ordered electrical apparatus to be installed in 150 electric passenger and freight locomotives, to be used when electrification is completed between New York, Philadelphia, Baltimore and Washington, from Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa., and General Electric Co., Schenectady, N. Y., at an approx. cost of \$16,000,000; 90 passenger, 375,000 lb. each; 60 fast freight, 330,000 lb. each; program also calls for later purchase of 80 additional electric locomotives of other types; American Brown-Boveri Electrical Corp., Camden, N. J., consulting with railroad with respect to design of portion of them, and may supply part of necessary electrical equipment; 43 of the new engines to be delivered in 1931, remainder before middle of 1933; surveying under way and engineering studies well advanced for electrification between Wilmington and Washington; remaining work on electrification between New York and Washington to require 68,000 tons steel and 39,000,000 lb. copper and bronze; locomotives under order will utilize 4,638,000 lb. copper and 2250 tons steel. 3-19

Va., Norfolk—Seaboard Air Line Ry Co., L. R. Powell, Jr., Receiver, reported, plans expending \$3,500,000 for improvements in 1931 in addition to regular maintenance and replacements.

West Virginia—Virginian Ry. Co., A. M. Traugott, Ch. Engr., Norfolk, Va., let contract to Chase & Gilbert Co., 57 William St., New York, for \$1,000,000 Section "F" of Guyandot River line. 5-21

West Virginia—Norfolk & Western Ry. Co., W. P. Wiltsee, Ch. Engr., Roanoke, Va., and Big Sandy & Cumberland R. R. Co., a subsidiary, applied to Interstate Commerce Comsn., Washington, for permission to construct cut-off of 2 1/2 mi., including 1580-ft. tunnel, vicinity of Deven, to replace 3-mi. line around mountain.

### Roads, Streets and Paving

In connection with LAND DEVELOPMENT large sums are expended for roads, streets, paving and sidewalks. Details will be found under that classification.

#### Proposed Construction

Alabama—State Highway Comsn., Landon G. Smith, Director, Montgomery, opens bids June 25 for 4.30 mi. paving, Court St., Montgomery to pavement on Mobile road, 5000 lb. rein. steel in culverts, 25,000 cu. yd. excavation and borrow, 3000 lin. ft. 3-4-in. cable for guardrail, 52,000 sq. yd. pavement.

Ark., Little Rock—Pulaski County expend \$86,000 paving 9 mi., Ironton Road Improvement Dist. 26, 14 ft. asphalt; Frank A. Pritchett, Engr., Wallace Bldg.

Florida—State Road Dept., Robt. W. Bentley, Chmn., Tallahassee, expend \$200,000 for 2.5 mi. paving and conc. overpass, connecting highway link between State roads 17 and 5 at Six Mile Creek, Hillsboro County.

Kentucky—State Highway Comn., H. D. Palmore, Engr., Frankfort, has low bids for 6 roads in following counties:

Breckinridge—4.084 mi. grading, draining, Hardinsburg-citchfield road, SP 441AG, Hoke Co., Buechel, \$27,002;

Grayson—3.507 mi. grading, draining, Leitchfield-Hardinsburg road, SP 138 BG, Hoke Co., Buechel, \$21,003;

Harrison—6.456 mi. surfacing, Cynthiana-Brooksville road, SP 58 1/2 C1S, Alex. Dunn Construction Co., Corbin, \$78,102; 3.479 mi. surfacing, same road, SP 58 1/2 C2S, Kaiser Transportation Co., Buechel, \$41,914;

Livingston—2.189 mi. grading, draining, Smithland-Eddyville road, SP 10DG, K. V. Johnson, Hartsville, Tenn., \$25,164;

Lyon—1.685 mi. grading, draining, Eddyville-Smithland road, SP 10 DG, Corum Bros., Madisonville, \$23,242.

La., Barksdale Field, Shreveport—See Airports, Airplane Plants, Etc.

La., Bunkie—City plans expending \$50,000 for street paving. See Financial News Columns.

La., Monroe—City, W. I. Neel, City Engr., opens bids June 8 for paving Milton St., 3520 sq. yd. sheet asphalt, 1500 cu. yd. grading, 2550 lin. ft. curb and gutter, 208 sq. yd. aprons, etc.

MARYLAND—State Roads Comsn., L. H.

Steuart, Sec., Baltimore, opens bids June 9 for 5 roads in following counties:

Allegany—6.65 mi. conc., Cumberland-Oldtown road, A-87-64;

Baltimore—.83 mi. conc., approaches to Middle River underpass, B-174-43;

Calvert—.24 mi. gravel, Bertha to Cove Point, C-27-82;

Somerset—1.06 mi., Princess Anne-Deal Island road, S-53-12;

Wicomico—1.2 mi. crusher-run slag, oil treated, W-78-17.

MARYLAND—State Roads Comsn., L. H. Steuart, Sec., Baltimore, has low bids for 5 roads in following counties:

Carroll—.826 mi. conc., Liberty road, C-97-511-FAP 237, Thomas, Bennett & Hunter, Westminster, \$95,770;

Charles—.21 mi. gravel, LaPlata-Dentsville road toward Bryantown, Ch-103-84, Southern Maryland Construction Co., 10 E. Lexington St., Baltimore, \$23,323;

Harford—.294 mi. macad., Philadelphia road, H-120-44, Thos. B. Murray, 11 W. Chesapeake Ave., Towson, \$45,591;

Washington—.320 mi. Dry Run to Fairview, and National Pike, W-91-62, Frank Byrons, 638 Register Ave., Baltimore, \$52,892;

Somerset—.55 mi. macad., Maryland Ave. to McCready Hospital, S-50-14, Hannaman Burroughs Co., Salisbury, \$8186. 5-21

Md., Baltimore—City, Nathan L. Smith, Highways Engr., opens bids June 10 for Alley Cont. 144, 10,650 sq. ft. conc.; Footway Cont. 120, 20,000 sq. ft. conc.

Md., Frederick—City reconstruct W. South St., Broadway to Jefferson St.; grading and new street bed by city; new rail line by Hagerstown and Frederick Ry.

Miss., Clarksdale—Coahoma County, Ben Collier, County Engr., soon let contract for hardsurfaced road, Highway 61, Clarksdale north to Tunica County line via Moon Lake.

Mo., Clayton, St. Louis—St. Louis County, Roy Jablonsky, County Highway Engr., completed plans for expending remaining \$1,750,000 of road bond issue voted in 1927; build approx. 65 mi. road.

Mo., Independence—Jackson County, Harry S. Truman, Judge, voted \$3,500,000 road bonds; actual construction to start about Aug. 15.

Mo., Kansas City—City, H. F. McElroy, City Mgr., voted \$1,000,000 bonds for trafficways and boulevards, 10-year plan; \$200,000 for protection of safety zones, safety islands, underpasses and street signs.

Mo., St. Louis—City, Bd. of Public Service, City Hall, opens bids June 9 for improving several streets.

Mo., St. Louis—City, Bd. of Public Service, approved paving projects to cost \$235,830.

Mo., St. Louis—City, Bd. of Public Service, City Hall, opens bids June 16 for asphalt, cold bitum. on trap rock and emulsified asphalt aggregates, hot mix stone filled bitum. grading and conc. paving, city blocks 1656, 2756, 2826, 4383SA, 4415, \$79,910.

Mo., St. Louis—City, Bd. of Public Service, City Hall opens bids June 23 for improving several streets.

Oklahoma—State Highway Comsn., Sam R. Hawks, Chmn., Oklahoma City, has low bids for 3 roads in following counties: Alfalfa—13. mi. graveling, U. S. 64, north of Cherokee to Wood County line, Lee Shults, Alva, \$2434; Woods—6 mi. graveling, U. S. 64, 6 mi. east of Alva to point west of Alva, same contractor, \$3998; Wagoner—maintenance gravel near Wagoner, Dickinson & Wray, Hitchcock, \$2415.

Oklahoma—State Highway Comsn., Sam R. Hawks, Chmn., Oklahoma City, plans rerouting Highway 56 from top of hill north of Canadian River to intersection with present highway to Sasakwa about 3 mi. east of bridge; to be brought to standard grade and graveled; No. 56 to be extended north to Wewoka and Okema via Cronwell; road to be paved from Sasakwa to Cronwell and will be paved from Ada to river at once.

Tenn., Memphis—City has low bid from F. S. Neely, 669 Maury St., at \$18,825, for constructing and paving Monroe Ave. cut-off; paving widened Monroe Ave., \$61,776; special culvert and storm sewers in connection with paving Ayres St., \$17,471.

TEXAS—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, plans 14 roads and 10 bridges in following counties:

Kinney—18.664 mi. grading, draining, Highway 3, Bracketville to Uvalde County line, FAP 484-C, Unit 1;

Navarro—9.55 mi. rein. conc. pavement, Highway 22, 4.3 mi. south of Corsicana to south line Consolidated Road Dist. No. 1, SAP 902-B, Unit 2, \$208,000;

Kimble—422.5-ft. rein. conc. bridge over

North Llana River, Highway 27, 22 ft. wide, project 950 ft., \$60,000.

Cottle—8.285 mi. rein. conc. pavement, Highway 4, Paducah to Sta. 473 plus 40, SAP 854-B, Unit 2, \$145,000;

Caldwell—870-ft. rein. conc. trestle bridge over San Marcos River Relief, Highway 3-A, total project 2.727 mi., FAP 79 Reop., \$125,000;

McLennan—steel and conc. overpass over I. & G. N. Ry., Highway 7, FAP 265-B, 246.8 ft., 24 ft. wide, length overall 2700 ft., \$40,000;

Vanzandt—1.317 mi. grading, draining, Highway 15, Fruitvale 1.5 mi. west, FAP 363-B, Unit 1, \$45,000;

Galveston—16.589 mi. rein. conc. pavement with 6-in. compacted shell shoulders, Highway 38, intersection of Highway 6 to Brazoria County line, FAP 298-A, Unit 2;

Harris—3.125 mi. grading, draining, rein. conc. pavement with 6-in. combined curb and 9-in. compacted shell shoulders, 20 and 41 ft. wide, Highway 19, Houston city limits to Pierce Junction, FAP 565-B, \$200,000.

Fisher—rein. conc. trestle bridges over Clear Fork of Brazos River and Alkali Creek, total 427.5 ft., 22-ft. roadway, \$30,000;

McLennan—steel I-beam and conc. overpass over I. & G. N. Ry., Highway 31, 246.8 ft. long, 3500-ft. project, 24-ft. roadway, \$45,000;

Karnes—13.915 mi. 3-in. compacted crusher run limestone base on 6 1/2-in. compacted caliche base course, 20 ft. wide, SAP 788, A, B, C and D, Unit 2, \$120,000;

Rains—9.353 mi. grading draining, Highway 42, Wood County line to Emory, \$16,000;

Van Zandt—4.805 mi. grading, draining, Highway 15, west city limits of Grand Saline to Fruitvale, FAP 363-C, Unit 1, \$16,000; 627-ft. rein. conc. trestle bridge over Neches River, Highway 64 between Smith and Van Zandt Counties, 24 ft. wide, FAP 298 Reop., \$40,000;

Wharton—13.751 mi. grading, draining, Highway 60, Wharton to Matagorda County line, FAP 609-A, Unit 1, \$63,400;

Presidio—large bridges of various sizes, rein. conc., Highway 118 between Marfa and Berdz Flat, SAP 9770-A, \$40,000;

Kerr—rein. conc. bridges, 24 ft. roadway, various lengths, Highway 27 between Ker-ville and Kendall County line, FAP 405-Rev., Sec. C, \$55,000;

Mason—533.7-ft. steel, conc. bridge over Beaver Creek, Highway 9, 22-ft. roadway, overall length project including graded approaches 4075 ft., FAP 17 Reop., \$65,000;

Nolan—3.945 mi. double bitum. surface treatment on 5-in. compacted base course, Highway 70, Sweetwater to Tyler County line, FAP 511-A, Unit 2;

Navarro—8.972 mi. rein. conc. pavement, Highway 31, Corsicana to 2 mi. east of Powell, FAP 575-A, Unit 2, \$195,000;

Victoria—steel, conc. and timber pile trestle bridge, 1230 ft. long, steel I-beam spans with conc. floor superstructure, with timber pile trestle substructure, 20-ft. roadway, over Coleta Creek, Highway 128, SAP 840-F, \$60,000;

Reagan—18.627 mi. grading, draining, Highway 99, Upton County line to west city limits of Big Lake, SAP 904-A, Unit 1, \$60,000;

Tarrant—716.8-ft. rein. conc. bridge, 30-ft. roadway, over Trinity River, Highway 10, SAP 977-E, \$215,000; 5.679 mi. grading, draining, conc., Highway 34, Fort Worth to Village Creek, SAP 958-A, \$150,000;

Potter—622 mi. grading, draining, Highway 5, 113 mi. north of Amarillo to FAP 585-A, FAP 162-N Reop., \$18,200;

Brazos-Burleson—steel, conc., timber bridges, consisting of steel I-beam and truss spans, conc. floors, superstructure and timber pile trestle substructure, over Brazos River and Little Brazos River, Highway 21, connecting Brazos and Burleson Counties, \$300,000;

Tex., Amarillo—City, E. N. Stanley City Engr. taking bids for 2 1/2-in. brick on 4-in. conc., 2 1/2-in. brick on 6-in. limestone base or rein. conc. paving 8 blocks, N Ave., \$35,000.

Tex., Corsicana—Navarro County, J. M. Tullios, County Aud., opens bids June 15 for 7.5 mi. grading, draining, Navarro County Cardinal Road No. 4, known as Corsicana-Ward Bridge road; A. F. Mitchell, County Engr.

Tex., Fort Worth—Tarrant County Com-mrs. Court voted to increase width of conc. 2 mi. paving to be laid on Highway 10; total cost \$65,000.

Tex., Galveston—Treasury Dept., Office of Supvg. Archt., Washington, D. C., opens bids June 11 for sidewalks, curbs, etc., U. S. marine hospital, Galveston, Tex.

Tex., Houston—City, J. M. Nagle, City Engr., has low bid from Gulf Bitulithic Co., 2820 Polk St., at \$70,066, for paving Smith St.

Tex., Kerrville — Kerr County Comms. Court opens bids June 8 for dirt work, bridge building and topping Center Point loop joining Highway 27.

Tex., San Antonio—City, James Simpson, City Clk., opens bids June 8 for improving Shook Ave.; 1½-in. hot rock asphalt, or 1½ in. bitulithic; I. Ewig, City Engr.

Tex., Waco—McLennan County build 1 mi. road along shore of Lake Waco connecting old Speegleville road with new Highway 67.

Virginia—U. S. Dept. of the Interior, National Park Service, Colonial National Monument, Yorktown, opens bids June 19 for building certain roads, parking areas, walks, fences and planting necessary to road construction, George Washington Birthplace National Monument, Westmoreland County, 1.25 mi. clay gravel road with appurtenances, 160 sq. yd. brick walks, 1380 sq. yd. gravel walks, 1350 lin. ft. log rail, 1500 lin. ft. split rail fence.

Va., Yorktown—U. S. Dept. of Agriculture, Bureau of Public Roads, Thos. H. MacDonald, Ch. of Bureau, opens bids June 18 for 7.9 mi. highway grading and structures, 285,000 cu. yd. excavation, 2600 cu. yd. conc. masonry, 400 cu. yd. brick masonry, 186,000 lb. steel reinforcement, 4000 lin. ft. culvert pipe, Unit 1, Colonial National Monument Parkway.

WEST VIRGINIA—State Road Comsn., Geo. E. White, Sec., Charleston, opens bids June 9 for 5 roads and 3 bridges in following counties:

Mercer—2.45 mi. grading, draining, stone base, Bramwell-Dolph road, Proj. 2040;

Mineral—2 mi. grading approaches to New Creek bridge, Proj. 3010;

Mingo—20.55 mi. surface treatment, Williamson-Island Creek road, State Route 8;

Morgan—6.78 mi. grading, draining, shale surfacing, Proj. 3490-B;

Raleigh—3 slab bridges and widening 4 culverts, Proj. 2212;

Wayne—6.0 mi. cement conc. paving, Lavalette-Wayne road, Proj. 2180.

WEST VIRGINIA—State Road Comsn., Geo. E. White, Sec., Charleston, has low bids for 12 roads and 3 bridges in following counties:

Kawana—5.5 mi. grading, draining, Charleston-Lincoln County Line road, Broad & Broad, Charleston, \$94,811;

Hardy—Lost River bridge, substructure, Haynes Bros., Russellville, \$5580; superstructure, Fairmont Mining Machinery Co., 10th St. and Belt Line, Fairmont, \$8610;

Logan—Man bridge, superstructure, G. Z. Goda, Mullens, \$7971; superstructure, Bristol Steel & Iron Works, Bristol, Va., \$14,500;

Mercer—Simmons bridge, Monty Bros., Charleston, \$14,704; 6.7 mi. grading, draining, Dikas Bros., Waynesville, N. C., \$195,537;

Braxton—7.8 mi. conc. paving, Paul C. Horner Co., Harman Bldg., Clarksburg, \$36,199;

Grant-Hardy—9.71 mi. retread, Petersburg-Romney road, Keeley Construction Co., Empire Bldg., Clarksburg, \$40,488;

Hampshire-Mineral—13.09 mi. Romney-Alaska road, Keeley Construction Co., \$52,499;

Mason—8.22 mi. grading, draining, Point Pleasant-Mount Olive Church road, \$99,597;

Mineral—7.91 mi. grading, draining, shale surfacing, John D. Solazo, Pittsburgh, Pa., \$177,927;

Randolph—21.8 mi. surface treatment, Hutonsville-Pocahontas County line road, Southern Oil & Tar Co., Clay St. and River Rd., Louisville, \$35,489;

Ritchie-Tyler—12.4 mi. gravel, Tyler City-Pennsboro road, Bonner & Bonner, Cameron, \$61,969;

Wayne—29.32 mi. surface treatment, Billups & Wellman, First Huntington National Bank Bldg., Huntington, \$40,133; 11.62 mi. surface treatment, Lavalette-Kenova road, Billups & Wellman, \$14,428;

Wyoming—7 mi. grading, draining, Pineville-Oceana road, Pinnell & Pfost, Ripley, \$180,574.

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forces; A. K. Small, Supvg. Engr., Road Dept.

KENTUCKY—State Highway Comsn., H. D. Palmore, Engr., Frankfort, let contracts for 7 roads and bridge in following counties:

Henry-Owen—Substructure of bridge over Kentucky River, Gratz, Steele & Libby, Knoxville, Tenn., \$40,060; superstructure, Vincennes Bridge Co., Vincennes, Ind., \$64,419;

Caldwell—7.67 mi. grading, draining, Princeton-Shady Grove road, Bell & Bell, 101 Broad St., Nashville, Tenn., \$51,595;

Calloway—4.64 mi. grading, draining, Murray-New Concord road, Bell & Bell, \$29,040;

Crittenden—8.8 mi. asphalt, Marion-Shady Grove road, Raymond Construction Co., Bowling Green \$144,292.

Lee—11.2 mi. grading, draining, Beattyville-Zachariah road Dycus Bros., Waynesboro, N. C., \$89,382;

Marshall—11.25 mi. grading, draining Mayfield-Eggners Ferry road, Keiser Transportation Co., Buechel, \$77,951;

Owen—7.66 mi. grading, draining, Owen-Dry Ridge road, Thomas Ruth & Co., Frankfort, \$35,022;

Clinton—8.9 mi., Mammoth Cave-Cumberland Falls Highway, Clinton Construction Co., Albany, Ky., \$58,712 (held over from last letting).

4-2 and 4-16

KENTUCKY—State Highway Comsn., H. D. Palmore, Engr., Frankfort, let contracts for 9 road projects (surface treatment and surface mix treatment), involving \$196,096, in following counties:

Henry-Oldham-Owne (Group 1)—F. G. Breslin, 32nd and Market Sts., Louisville, \$27,804;

Spencer-Shelby (Group 2)—Southern Oil & Tar Co., Clay St. and River Rd., Louisville, \$17,363;

Washington-Marion-Boyle-Lincoln (Group 3)—Carey-Reed Co., 613 Guaranty Bank, Lexington, \$28,049;

Garrard-Lincoln-Mercer (Group 4)—Southern Oil & Tar Co., \$37,371;

Boone-Grant (Group 5)—Eaton Oil & Wrks, Covington, \$1276; (c) Campbell County rejected;

Harrison-Nicholas (Group 6)—R. B. Tyler Co., 1446 Levering St., Louisville, \$10,483;

Bath-Fleming-Nicholas (Group 7)—Eaton Oil Works, \$22,792;

Bell-Laurel-Rockcastle-Whitley (Group 8)—Southern Oil & Tar Co., \$26,927;

Greenup-Boyd-Carter (Group 9)—Southern Oil & Tar Co., \$24,026.

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## Sewer Construction

Sewer construction in LAND DEVELOPMENT projects involves the expenditure of large sums of money. Under that classification details of these improvements are reported.

Ark., Forrest City—City, Louis McDaniel, Chmn., plans \$21,000 sewer extensions; 25,000 ft. 6, 8 and 10-in. pipe; Ford & McCrea, Engrs., 215 Gazette Bldg., Little Rock. 5-28

La., Barksdale Field, Shreveport—See Airports, Airplane Plants, Etc.

La., New Orleans—Sewerage & Water Bd. of New Orleans opens bids July 15 at office of Purchasing Agent, 526 Carondelet St., to furnish and deliver four vertical synchronous motors to Stations 6 and 7.

Md., Baltimore—City, Bureau of Sewers, open bids June 10 for Storm Water Contract No. 165, and materials contract No. 84, both Back River; let Sanitary Contract No. 270 to Morocco Construction Co., 231 S. Exeter St., at \$43,319, and Materials Contract No. 83 for terra cotta pipe to Pen Mar Co., Munsey Bldg., at \$20,573; has bid of \$3530 from Cruse Kemper, Ambler, Pa., for gas holder at Back River Sewer plant.

Mo., Kansas City—See Water Works.

Mo., St. Louis—Bd. of Public Service has preliminary plans for vitrified clay sewers in Rock Creek Sewer Dist., Baden Sewer Dist. 8 and 9, Warne Ave. Sewer Dist. 12, Southwestern Sewer Dist. 7; \$26,300.

Mo., St. Louis—Bd. of Public Service approved ordinance providing for construction of Wherry Ave. public outlet sewer; \$160,000; W. W. Horner, Ch. Engr., sewer and paving construction.

Mo., St. Louis—Bd. of Public Service open bids June 9 for Letting 4247, Sharp Ave. sewer District No. 1.

N. C., Statesville—State Legislature authorized city to issue bonds for sewers.

Tenn., Chattanooga—City Comsn. approve bill authorizing issuance of \$200,000 bonds to construct sewers in Brainerd; E. D. Bass, Mayor.

Tenn., Kingsport—City, F. L. Cloud, City Mgr., receive bids June 9 for work in Improvement Districts No. 75 to 81; includes 24 catch basins, 4 manholes, 2500 lin. ft. 8-in. sanitary sewer, 850 lin. ft. 6-in. sanitary sewer laterals; G. D. Black, City Treas.

Tex., Dumas—City let contract to Panhandle Construction Co., Lubbock, for 57,270 ft. vitrified clay sewers; \$30,701; M. A. Turner, City Clerk.

Tex., Houston—Russ Mitchell, Inc., Petroleum Bldg., has contract for sewers on West Gray St., from Taft to Valentine; \$25,000.

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## Telephone System

D. C., Washington—Directors of Chesapeake & Potomac Telephone Co., 725 13th St., N. W., authorized expenditure of \$133,865 for switchboard equipment in District, Metropolitan and National central offices, underground conduit and cable extensions and new switchboard installations in several sections.

La., Barksdale Field, Shreveport—See Airports, Airplane Plants, Etc.

Miss., Oxford—Southern Bell Telephone & Telegraph Co., Inc., 67 Edgewood Ave., S. E., Atlanta, A. T. Hartford, Bldg. Engr., received bids June 4 for telephone exchange; 1 story, 31x55 ft., brick and stone; following estimating: Dye & Mullins, Columbia; Robert & Bruder, Indianola; Word & Worly, W. W. Knight, J. A. Smith, R. L. Bell, all Oxford; Ed Osborne, Bay St. Louis; S. & W. Construction Co., Shrine Bldg.; B. W. Cooke & Son, 63 S. 3rd St.; W. W. Wessell, 388 N. Front St.; B. E. Buffalo Construction Co., 658 East St., all Memphis, Tenn.; Donald McIver, Candler Bldg., Atlanta, Ga.; Smallman & DeQueen Co., 1109 5th Ave., S., Birmingham, Ala.; Upchurch Construction Co., Montgomery, Ala.

Tex., Fort Worth—Southwestern Bell Telephone Co., C. E. Overbeck, Bldg. Engr., 308 S. Akard St., Dallas, St. Louis, Mo., let contract to Eckert-Burton Construction Co., Inc.,

## Contracts Awarded

Ala., Birmingham—City Comsn. let contract to H. H. Bowdry, Martin Bldg., at \$10,715 for bitulithic paving 20th St.

Ark., Hot Springs—Dept. of Agriculture, Forest Service, Washington, building and repairing roads in Ouachita National Forest, Garland and Montgomery Counties with own forces.

D. C., Washington—District Comms. let contract to McGuire & Rolfe, Inc., 101 M St., at \$196,720, for paving certain streets in Capitol Plaza and Federal Triangle; to Highway Engineering & Construction Co., 7th and E Sts., N. E., at \$5500, for conc. curb and gutters, Broad Branch road.

Florida—State Road Dept., Robt. W. Bentley, Tallahassee, build Road 44, Mims to connect with road to Sanford, with convict



Burt Bldg., Dallas, for \$75,000 telephone exchange; fireproof, 83x67 ft., 2 stories, tar and gravel roof; I. R. Timlin, Archt., 1010 Pine St.; W. J. Knight & Co., Wainwright Bldg., both St. Louis, Mo. 5-21

### Textile Mills

Ga., Dalton—Real Silk Hosiery Mills, Indianapolis, Ind., move 44 full fashioned knitting machines and auxiliary equipment from Philadelphia to Dalton.

N. C., Asheville—Asheboro Hosiery Mill soon let contract for 185x60.8 ft. addition; 2 stories and basement, brick; mill construction; have purchased 200 "K" model knitting machines to be installed when completed; work under supervision of J. W. Maxwell, Jr., Archt., Raleigh.

N. C., Gastonia—Stockholders of 14 textile plants in the Carolinas approved merger and organization of mills involved into Textiles, Inc., a \$17,000,000 corporation; mills involved include Arkray Mills, Inc., Osceola Mills, Inc., Victory Yarn Mills, Seminole Cotton Mills, Winget Yarn Mills, Arlington Cotton Mills, Gray Manufacturing Co., Mutual Cotton Mills, Myers Mills, Inc., and Myrtle Mills, Inc., all Gastonia; Priscilla Mills, Inc., Randle; Cora Cotton Mills, Kings Mountain; Elizabeth Mills, Inc., Charlotte; Merco Mills, Inc., Lincolnton; plan also includes purchase of Dilling Cotton Mills, Kings Mountain; Flint Manufacturing Co. and Riggs Mills, Inc., Gastonia; Helen Yarn Mills, and Wymojo Yarn Mills, both Rock Hill, S. C.; Lockmore Cotton Mills, York, S. C.; directors of new corporation to be formed by merger, which is to be perfected June 1, are: A. G. Myers, J. H. Separk, C. C. Armstrong, J. L. Gray, A. K. Winget, S. N. Boyce, R. G. Rankin, all Gastonia. 4-23

N. C., Elizabeth City—Avalon Hosiery Mill—changing equipment to make chiffon hose with picot edge and cradle sole.

N. C., Salisbury—North Carolina Weavers, Inc., capital \$100,000, chartered; G. M. McCanness, C. H. Klutz.

N. C., Thomasville—Carolina Underwear Co., capital \$50,000, incorporated; A. H. Ragan, W. H. Peace.

Tenn., Newport—Dixie Hosiery Mills, Inc., organized with \$25,000 capital, installing equipment for hosiery manufacture in formerly Lamon Mill; John B. Ruble, W. K. Remine.

Va., Pulaski—Virginia Maid Hosiery Mills, Inc., erect \$20,000 second unit, double plant capacity and provide employment for 100 additional workers; install 15 additional full fashioned knitting machines; D. J. Phipps, Contr., 212 Main St., Wasena, Roanoke.

### Water Works

Details of water works improvements in connection with the many LAND DEVELOPMENT operations will be found under that classification.

Ark., Ozark—W. H. Henby applied to U. S. District Engr., Memphis, Tenn., for permission to lay 8-in. water main across bed of Arkansas River, 150 ft. upstream from highway bridge.

D. C., Washington—District Commrs. have low bids of \$14,000 from Worthington Pump and Machinery Corp., Homer Bldg., for 20,000,000-gal. electrically driven centrifugal pumping unit, to be installed in Bryan St. pumping station. 5-21

Fla., Ormond—Town, L. O. Van Sickle, Auditor and Clerk, returned all bids unopened to estimators on construction of water line across Halifax River. 4-23

Ga., Ellijay—City voted \$22,000 bonds for constructing waterworks system.

Ky., Ashland—Merkle Contracting Co., 413 City Bank Bldg., Kansas City, Mo., has contract for 5 mi. water line between Raceland and Russell; Fred J. Gesling, City Engr. 3-12

Ky., Paris—City, Boone Baldwin, Managing Agent, receives bids June 15 for water works improvements; includes conc. dam on Stoner Creek, near Spears Mills; materials and equipment for water distribution system, including piping fittings, valves, hydrants, meters, meter boxes; changes and additions to water distribution system, including laying water mains, services, paving; additional equipment for filtration and pumping plant,

including filters, piping, valves; installation this additional equipment and removal of old boiler, pumps, piping; changes and additions to filtration and pumping plant building, including new basins. 4-16

La., Natchitoches—City voted \$50,000 water and light bonds.

Md., Cascade—Maryland National Guard, Capt. Robert F. Barrick, let contract for water and sewer system at \$14,875 to J. B. Ferguson & Co., 39 W. Washington St., Hagerstown. 4-30

Md., Clear Spring—City soon take bids on addition to water supply; J. B. Ferguson & Co., Engr., 39 W. Washington St., Hagerstown.

Md., Cumberland—City, Ralph L. Rizer, City Engineer, received low bid of \$772,925 from Vang Construction Co., Pittsburgh, Pa., for construction of secondary dam, deck bridge, etc., Evitts Creek; dam to be 90 ft. high x 726 ft. long; located 12 miles from city above Lake Gordon; bridge to have 18-ft. driveway; probably let contract at once; J. E. Greiner Co., Consult. Engr., 1201 St. Paul St., Baltimore; Thomas W. Koon, Mayor. 5-28

Md., Frederick—City has low bid from Boyd & Goforth, Charlotte, N. C., on filter plant; from American Water Softener Co., 4th St. and Lehigh Ave., Philadelphia, Pa., on equipment; J. B. Ferguson, 39 W. Washington St., Hagerstown, on pipe line; Whitman, Requaardt & Smith, Engrs., Baltimore Tr. Bldg., Baltimore. 5-14

Md., Rockville—City, T. B. Abert, Engr., employed Whitman, Requaardt & Smith, Baltimore Trust Bldg., Baltimore, as engineers for \$50,000 addition to sewer and water systems; include sand bed at disposal plant and 100,000 gal. reservoir. 5-28

Mo., Kansas City—City, H. F. McElroy, City Mgr., voted \$32,000,000 improvement bonds, including \$2,750,000 for parks and playgrounds; \$3,500,000 water supply improvements; \$1,500,000 for sewers; \$2,000,000 for Brush Creek sewer; \$500,000 for airport improvements; \$200,000, for protection of safety zones, safety islands, underpasses and street signs. 3-12

Md., Oxford—City Commrs., J. L. Thompson, Pres., opened bids June 3 for excavating and backfilling about 4000 ft. trenches and laying 2 and 6-in. c. i. water pipe, valves, hydrants, fittings and appurtenances; Walter F. Moore, Engr., Oxford.

Mo., Monett—City let contract for 500,000-gal. steel tank, tower, and conc. foundation to M. E. Gilloz; to sublet standpipe.

Okla., Hominy—Oklahoma Utilities Co., submitted proposal to lease water system; now furnishes electric service under franchise.

Okla., Sapulpa—City, A. Higginbotham, City Mgr., plans rebuilding water pumping plant; \$174,000; O. Kelley, Engr., Oklahoma City.

Tenn., Lebanon—City, Frank Buchanan, Mayor, has following low bids for water works improvements: Sec. 1 and 2—Fiske-Carter Co., \$17,452 and \$45,000, respectively; Sec. 2-A—McFarland Engineering Co., \$10,730; Sec. 3—American Cast Iron Pipe Co., 2930 N. 16th St., Birmingham, Ala., \$64,028; Sec. 3—Utility Contractors, Inc., \$24,781; Wiedeman & Singleton, Engrs., Candler Bldg., Atlanta, Ga. 5-21

Tex., Amarillo—City let contract for water works improvements, including 12,000 lin. ft. 2-in. galvanized and 10,000 lin. ft. 6-in. c. i. pipe, tees, plugs, eels, sleeves, to Clowe & Cowan, 401 Harrison St., and Morrison Supply Co., 115 N. Fillmore St.

Tex., Corpus Christi—City, Robert J. Cummins, Engr., Bankers Mortgage Bldg., Hous-

ton, advises no date set for releasing plans for La Fruta dam; includes driving additional steel sheet piling to form cut-off wall.

Tex., Houston—City, James H. B. House, Water Commr., drill well South Side pumping plant, Hermann Park; to replace well damaged by cave-in; \$40,000; capacity 3,000,000 gal. daily; soon ask bids.

Tex., Longview—City, B. N. Taylor, City Mgr., plans \$30,000 water and \$40,000 sewer extensions; including new sewage disposal plant and 1000-gal. pump at water plant; E. Vogt, Engr. 5-28

Va., Lynchburg—Voters in Flynn's and King's precincts defeated proposal to establish water system in Brookville district in Campbell county and issue \$125,000 bonds. 4-30

Va., Mount Vernon—Dept. of Agriculture, Bureau of Public Rds., receives bids June 9 for construction of drilled and cased well. 4-16

Va., Roanoke—Consumers Water Co., Portland, Me., acquired Roanoke Water Works Co., 20 Salem Ave., E., and subsidiaries, including Richmond Development Corp., operator of Radio Station WRBX; also Vinton-Roanoke Water and Virginia Water Co.; properties include 29½-acre tract adjoining the Corbeshaw addition an intimated as site of storage reservoir.

W. Va., Parkersburg—City let contract to Getz Brothers & Co., Baltic, Ohio, for constructing water distribution system, North End district; \$35,355; lay 16 mi. pipe. 5-21

### Woodworking Plants

Ky., Lexington—Strickler Manufacturing Co., H. W. Strickler, Prop., installing equipment for \$50,000 furniture factory.

La., New Iberia—Mancuso Cooperage Co., Kenner, receives bids about June 4 for 70 x 105 ft., frame and metal cooperage factory and warehouse; Theodore L. Perrier, Archt., Maritime Bldg., New Orleans; following estimators: X. F. Herpech, John A. Gihlin, both New Iberia; D. A. Trahan, Lafayette.

Miss., Marks—Frazier Stave Co., Crowder, may establish stave mill.

Miss., Ripley—Hickerson Brothers selected Strickland planer site as site for stave mill.

### FIRE DAMAGE

Ala., Russellville—School Building; loss \$75,000.

Fla., Jacksonville—Duval County bridge over Arlington River, Jos. Hammond, County Commr.

Ky., Albany—Sloan's Garage, B. P. Sloan, Mgr.; loss \$25,000.

La., Lake Charles—Reiny's Variety Store; W. Holtzman Dry Goods Store; loss \$25,000.

Md., Baltimore—Portion of plant of Atlantic Refining Co., Key Highway and Lawrence St.

Miss., Purvis—Stores of Howard Carley Co. and Pylant Bros. Co.; loss \$10,000.

N. C., Elizabeth City—Planing mill of Foreman-Blades Lumber Co.; loss \$150,000.

N. C., Greensboro—Plant of Liberty Veneer Co.; loss \$30,000.

N. C., Liberty—Plant of B. J. Craigson Furniture Co.; loss \$40,000.

Tex., Houston—Plant of Sampson Machinery and Supply Co., 23 Chartres St.

Tex., San Angelo—Sterling Barber Shop; City Confectionery; loss \$8000 to \$10,000.

Tex., Taylor—Blackshear Colored High School; loss \$20,000.

Va., Culpeper—Grain elevator of Culpeper Milling Co.; loss \$70,000.

W. Va., Charles Town—J. M. Trapnell's barn; loss about \$10,000.

## BUILDING NEWS

### BUILDINGS PROPOSED

#### Association and Fraternal

Tex., Annona—Ancient Free and Accepted Masons erect brick veneer temple; 2 stories; site 40x60 ft.; stores on first floor.

Tex., Temple—Texas Grand Lodge, Knights of Pythias, Royal C. Phillips, Grand Chancellor, erect \$20,000 home for aged.

#### Bank and Office

Md., Baltimore—Federal Land Bank, St. Paul and 24th Sts., opens bids June 4 at office Wyatt & Nolting, Architects. Keyser Bldg., for \$25,000 interior alterations.

N. C., Durham—Durham Medical Building Corp., Mrs. B. N. Duke, Stockholder, 403 W. Chapel Hill, start work within 30 days on



\$250,000 Medical Arts Bldg., W. Chapel Hill and Duke Sts.; 5 stories, 90x85 ft., Gothic type, fireproof, English brick exterior, Indiana limestone base and trim, 2 high-speed elevators, marble floor and wainscoting in lobby, brass stripped terrazzo corridor floors, metal self-ventilating type windows, controlled vapor heat, 140 offices; Milburn, Helster & Co., Archts., Hill Bldg., Washington, D. C.

Okla., Oklahoma City—C. F. Colcord, Colcord Bldg., L. D. Callahan, Mgr., install 4 high speed elevators in Colcord Bldg.; R. Porter, Engr., 1607 E. 12th St.

Tex., Cuero—Central Power & Light Co., L. T. Mattingly, 1816 Alamo Natl. Bk. Bldg., San Antonio, opens bids June 8 to remodel office bldg. brick, cast stone, stucco, steel bar joists, rein. conc. slab, pitch and gravel, new store front with conc. or steel beams, cement and terrazzo floors; John M. Marriott, Archt., 503 Frost Natl. Bk. Bldg., San Antonio.

Tex., Liberty—First National Bank ready for bids for \$50,000 bldg.; Texas limestone, 2 stories, mezzanine, rein. conc. foundation and frame; Corneli G. Curtis, Archt., 1628 Hawthorne St., Houston.

Tex., Tyler—Peoples National Bank, Sam R. Greer, Pres., erect 8- or 10-story bank and office building.

### Churches

Ark., Bentonville—Baptist Church, Rev. W. E. White, Pastor, plans church, parsonage and Sunday school, A St.; Gothic type, stone, \$30,000.

D. C., Washington—St. Anthony's R. C. Church, Very Rev. Patrick E. Conroy, Pastor, 1030 Lawrence St., N. E., raising funds for \$200,000 to \$300,000 church, 12th and Monroe Sts., N. E.

Md., Cumberland—St. Marks Reformed Church, Rev. E. P. Skyles, 220 Harrison St., erect Sunday school and rectory; brick and stone, 3 stories, 48x30 ft.; Farrell Moore, Archt., 547 N. Center St.

Md., Joppa—Trinity Lutheran Church, Rev. Ed Austin, Pastor, erect stone bldg.; 1 story, 70x33 ft.; plans by Chas. G. Sack, 4621 Harford Ave., Baltimore.

Md., Overlea—Baptist Church, Rev. H. G. Carlburg, Pastor, 4104 Overlea Ave., selected A. C. Leach, 2707 St. Paul St., as architect for 2-story stone church and Sunday school. 4-16

Tex., Amarillo—First Christian Church, J. E. Hill, Chmn., 601 Tyler St., having plans drawn by A. F. Wickes, care Dept. of Church Erection, U. C. M. S. Mission Bldg., Indianapolis, Ind., for \$35,000 bldg., 1301 Madison St.; will select local asso. archt.; brick, struct. clay tile and rein. concrete. 4-30

Tex., Bartlett—Lutheran Church plans \$40,000 bldg.; rein. conc. and brick; auditorium seat 750; classrooms, kitchen and rest rooms in basement; break ground about July 1.

### City and County

Ga., Atlanta—Fulton County Comsn., W. C. Hendrix, Chmn., considers remodeling bldg., rear of court house, for additional office space.

La., New Orleans—City Commission Council receives bids until June 16 at office City Purchasing Agt., Room 24, City Hall, for Ninth St. Market, Ninth and Magazine Sts.; brick, 1 story, \$40,000; Sam Stone, Jr., & Co., Archts., Masonic Temple Bldg.; following contractors estimating: H. W. Bond & Bro., 816 Howard Ave.; O'Brien Construction Co., Amer. Bk. Bldg.; Reimann Construction Co., Maritime Bldg.; Dalgarn Construction Co., Louisiana Bldg.; R. P. Farnsworth & Co., Maritime Bldg.; John A. O'Brien, Louisiana Bldg.; J. A. Petty & Sons, Inc., Audubon Bldg.; Chas. Gilbert Construction Co., Canal Bk. Bldg.; Lionel F. Favret, Louisiana Bldg.; Alvin M. Fromherz, Q. & C. Bldg.; H. Pratt Farnsworth, Canal Bk. Bldg.; Gervais F. Favrot, Balter Bldg.; Caldwell Bros., 816 Howard Ave.; Wm. Wallace, Pere Marquette Bldg.; O. M. Gwin Construction Co., 3505 Fern St.; J. M. DeFraites, Inc., 612 State St.; Anzalone Construction & Supply Co., Balter Bldg.; John B. Mooney, Balter Bldg. 5-21

Mo., Independence—Jackson County, Harry S. Truman, Presiding Judge, voted \$200,000 bonds to remodel court house. 5-14

Mo., Kansas City—City, H. F. McElroy, City Mgr., voted \$4,000,000 bonds for city hall and site, \$2,000,000 for public hospitals, \$500,000 for city markets, \$750,000 for

stadium and outdoor theater, \$375,000 for fire department, \$125,000 for district police stations, \$4,500,000 for municipal auditorium and site; Jackson County, Harry S. Truman, Presiding Judge, voted \$4,000,000 for court house and site, and \$250,000 for detention home and site. 3-19 and 5-14

Okla., Enid—Garfield County Bd. of Comms., Fred W. Denner, County Engr., will call for bids to raze court house damaged by fire at \$87,500 loss. 2-12

Okla., Waurika—Jefferson County Bd. of Comms., E. J. Beau, member, erect \$150,000 court house, Main St.; architect not selected.

Tex., Luling—City, Henry G. Stein, Mayor, ready for bids in few days for fireproof city hall and fire station; 1 and 2 stories, 45x70 ft., conc. frame, face brick, struct. clay tile, cast stone trim, Glenn C. Wilson, and Richard J. Werner, Archts., Milam Bldg.

Tex., Palestine—Anderson County Comms., Ben J. Kennedy, County Judge, receives bids June 25 for jail, site present structure; \$60,000, brick and rein. conc., 72x35 ft., tool-proof steel frame; Theo. S. Maffit, Archt., 510 N. Sycamore St. 5-14

Tex., Waco—City having plans drawn by T. Brooks Pearson, Archt., First St. Bk. Bldg., for fireproof fire alarm headquarters and drill tower, 11th St. and Columbus Ave.; additional equipment. 5-28

W. Va., Huntington—Huntington County and City of Huntington plan to establish prison farm and workhouse.

### Dwellings

Ala., Birmingham—Geo. C. Walter, 1524 16th Ave., South, erect stone veneer residence, Mountain Brook Estates; 2 stories, 37x88 ft., slate roof, hot air heat; Jesse W. Green, Archt., 708 Educational Bldg.

D. C., Washington—Jas. E. Colliflower, 1001 15th St., erect brick and stone residence, Kenwood, Md.; 2½ stories, slate roof; A. H. Sonnemann, Archt., 2400-16th St., N. W.; bids June 2.

D. C., Washington—O. L. Crickenbarger, 3430 Connecticut Ave., erect brick and hollow tile residence, 32nd Place and Tennyson St.; 2½ stories, slate roof, steel work, copper and sheet metal work, hot water heat; plans by C. E. Dillon, 1206 Floral St.

D. C., Washington—Thos. L. Lechlirer, 624 A St., N. W., has permit for 2 brick, frame and conc. block dwellings, 5416-20 30th Place, N. W.; 2 stories; total \$15,000.

Fla., Lake City—Dr. J. W. Bishop erect brick residence; Alvin R. Moore, Archt., Centennial Bldg., Tallahassee; let contract in few days.

Ga., Atlanta—W. S. McDonald, 1 Collier Rd., about ready for bids for brick veneer residence, Paces Ferry Place; 2 stories and basement, conc. foundation, hardwood and tile floors, steam heat; McDonald & Co., Archts.-Engrs., Southeastern Trust Bldg.; following expected to estimate: Christian & Bell, Red Rock Bldg.; Collins, Holdbrook & Collins, Atlanta Trust Company Bldg.; Yost Construction Co., Inc., Candler Bldg.; Ben H. Burgess; Pittman Construction Co., Rhodes Bldg. 5-28

La., New Orleans—R. Barry, 1125 Independence St., considers erecting residence, Arlington Drive; work not start before latter part September.

La., New Orleans—Conservative Homestead Assn., Maison Blanche Bldg., John J. Pussiguer, Sec., erect Spanish type bungalow, N. Solomon St. near Dumaine St.; about ready for bids.

Md., Baltimore—Phillip Needle, 111 N. Charles St., erect 4 brick dwellings, 654-60 Mosher St.; 2 stories, 14x44 ft.; Stanislaus Russell, Archt., 11 E. Lexington St.

Md., Bay Ridge, Annapolis—Anna C. Pepper, care Bay Ridge Realty Corp., 14 E. Lexington St., Baltimore, plans cottage.

Md., Upper Marlboro—Mrs. Eleanor Patterson remodel and enlarge house; concrete, brick, stone, stucco, struct. steel, sheet metal work, rubber tile and hardwood floors, asbestos shingle roof, septic tank, Delco lighting system; Geo. N. Kay, Archt., 1223 Connecticut Ave., N. W., Washington, D. C.; bids in.

Mo., St. Louis—Jos. L. Rehme, Pres., Lafayette-South Side Bank & Trust Co., 1731 S. Broadway, erect residence, Lake Forest.

Mo., St. Louis—Wedemeyer & Nelson, Archts., Wainwright Bldg., drawing plans for dwelling, Clayton and Hanley Rds., Lake Forest.

Tenn., Clearbranch—Representative John Q. Tilson, New Haven, Conn., purchased residence; remodel and enlarge for summer home.

Tex., Houston—C. S. Settegast, 414 Fannin St., has permit for \$15,000 residence, 3208 Huntington St.; brick veneer, 10 rooms.

Tex., Beeville—T. P. Morgan, 202 Mary Louise Drive, has low bid from V. L. Rasmussen, 560 E. Cincinnati St., for ranch house 8 miles from Beeville; Martin Eickenroht, Archt., 710 Maverick Bldg., all San Antonio.

Tex., Beaumont—R. B. Cousins, 2095 North St., erect \$10,000 Colonial residence; frame, 2 stories, hardwood and tile floors, conc. foundation, asbestos shingle roof; Edwin C. Kreisle, Archt., 803 Scarbrough Bldg., Austin; plans complete; owner will let contract.

Va., Clarenton—Chas. Puglisi, Livingston Heights, Arlington County, erect \$11,000 residence addition to store, Livingston Heights.

### Government and State

Ala., Mobile—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., purchased site for \$40,000 post office annex.

Ark., Blytheville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., completing plans for \$70,000 post office.

Ark., Conway—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., drawing plans for \$90,000 post office.

Ark., Jonesboro—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., drawing plans for \$110,000 post office and Federal building.

Ark., North Little Rock, Little Rock—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., probably call for bids within 30 days for \$110,000 post office. 12-11

Ark., Pine Bluff—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., drawing plans for \$55,000 post office.

D. C., Washington—Architect of The Capitol, David Lynn, has low bid at \$604,000 from George A. Fuller Co., Munsey Bldg., Washington, for conservatory bldg., U. S. Botanic Garden; Bennett, Parsons & Frost, Constl. Archts., 80 E. Jackson Blvd., Chicago, Ill. 5-28

D. C., Washington—Prospective estimators on extension of bldg., Marine Barracks, bids June 10 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.; W. E. Mooney, 2530 Pennsylvania Ave.; E. E. Ward & Son, 3563 11th St., N. W.; Mechanical Engineering & Construction Corp., Mills Bldg.; Martin Bros., 1341 Connecticut Ave.; H. Herfurth, Jr., Inc., District Natl. Bk. Bldg.; H. W. Cord Co., 1003 K St., N. W.; Bahen & Wright, 916 Rhode Island Ave., N. E.; Bruce E. Clark, all Washington; Mullan Contracting Co., 3945 Greenmount Ave.; Consolidated Supply Co., 1102 N. Charles St., both Baltimore, Md.; W. P. Thurston Co., Inc., 301 S. Fourth St., Richmond, Va. 5-28

D. C., Washington—Chief, Bureau of Yards and Docks, Navy Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids June 17 for barracks and boiler plants, Naval Air Station, Anacostia; conc., brick, hollow tile, vitrified tile, granite, limestone, artificial stone, radial brick chimney, struct. steel, slate roofing, built-up roofing and sheet metal work, metal studding and lathing, plaster, stucco, marble, slate, tile, terrazzo, metal doors, steel windows, wood sash and trim, screens, refrigeration, boiler plant installation; plans from above.

D. C., Washington—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids June 16 for clearing site of Public Health Service bldg.; \$865,000, marble and Indiana limestone, 3 stories, 260 ft. on B St., 145x50 ft. on 19th and 20th Sts., and central wing 48x76 ft.; J. H. DeSibour, Archt., 1200 15th St., N. W. 5-14

Fla., Miami—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids in duplicate June 19 for excavations and foundations of \$1,641,000 post office, court house, custom house, etc.; Phineas E. Paist & Harold D. Stewart, Archts.; L. Murry Dixon, Asso. Archt., all Ingraham Bldg., Miami, and Ponce de Leon Entrance Bldg., Coral Gables, Fla.; Maurice H. Connell, Mech. Engr., McAllister Hotel Bldg., Miami; Harvey Baxter, Struct. Engr., 518 Harding St., P. O. Box 65, Coconut Grove, Miami; drawings from Supvg. Archt. 4-16

Fla., St. Petersburg—United States Veterans Bureau, Arlington Bldg., Washington, D. C., erect \$900,000 soldiers' home in St. Petersburg. 2-12

Ga., Fort Benning—Constructing Quartermaster has low bid at \$237,817 from Murphy Pound, Hill Bldg., Columbus, for units E, F, G and H of Barracks No. 2. 5-21

La., Mansfield—Additional prospective estimators on post office, bids June 9 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.; H. W. Underhill Construction Co.; Christy-Dolph Construction Co., both Construction Bldg., Dallas, Tex.; Ashton-Glassell, Inc., Box 1383,

Shreveport, La.; Chas. H. Barnes, 312½ Fifth St., Logansport, Ind.; E. E. Rabalais & Son, Bunkie, La.; Wickes Engineering & Construction Co., 1441 Bluff St., Des Moines, Iowa; W. B. Smith, Eldorado, Ark.; Algernon Blair, First Natl. Bk. Bldg.; Samford Bros., Inc., 301 Washington Ave., both Montgomery, Ala.; Theriault Contracting Co., 534 E. Johnson St., Philadelphia, Pa.; Kellogg & Anderson, Sedalia, Mo.; Murphey Pound, Columbus, Ga.; Phelps-Drake Co., Inc., Metropolitan Life Bldg., Minneapolis, Minn.; Batson-Cook Co., Inc., West Point, Ga.; O. E. Johnson, Box 105, Dubach, La.; Grahn Construction Co., Red Rock Bldg., Atlanta, Ga. 5-28

La., Shreveport—Prospective estimators on \$350,000 post office remodeling and extension, bids June 17 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.; Algernon Blair, First Natl. Bank Bldg., Montgomery, Ala.; Ashton Glassell, Inc., Box 1383, Shreveport; Fayette Construction Co., 500 W. Short St., Lexington, Ky. 5-28

Md., Pikesville—Commanding General, Maryland National Guard, Armory Place and N. Howard St., Baltimore, has low bid at \$21,990 from C. W. Schmidt, Hearst Tower Bldg., for stable, 110th Field Artillery.

Miss., Aberdeen—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., enlarge post office and Federal building.

N. C., High Point—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., selected Ecolos D. Everhart, 164 S. Main St., and Louis F. Voorhees, 1113 Greenway, both High Point, as architects, and James M. Workman, American Bank Bldg., Greensboro, N. C., as engineer for \$400,000 post office, S. Main and Green Sts.; A. B. Boynton, Mech.-Elect. Engr., Durham. 12-11

N. C., Samcand—E. T. McKeithen, Chmn., Bldg. Comn., Room 507, Revenue Bldg., Raleigh, N. C., receives bids until June 11 for 2 cottages for State Home and Industrial School for girls, and for plumbing and heating; separate bids for each bldg., and for both bldgs. under one contract; \$75,000; drawings on file at Home, at office Chas. C. Hook and Walter W. Hook, Archts., both Commercial Bank Bldg., Charlotte, at office State Insurance Commr., Raleigh, and at offices Associated General Contractors of America, Commercial Bank Bldg., Raleigh, and Builders Bldg., Charlotte. 3-26

Tenn., Rogersville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., completing plans for \$70,000 post office. 11-27

Tex., El Paso—Department of Justice, Sanford Bates, Director, Bureau of Prisons, Washington, D. C., opens bids June 24 for Federal house of detention near El Paso; \$400,000, rein. conc., struct. steel, cast stone, steel sash, steel doors, steel cells, metal lath and plaster, metal partitions, tile, comp. and asbestos shingle roof, cement and linoleum floors, 2 stories; Tross & Tross, Archts., Two Republics Bldg., El Paso. 5-28

Tex., Houston—Prospective estimators on extension and remodeling of post office and court house, bids June 16 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.; General—John Largura & Co., 3672 Adams St., Gary, Ind.; Ralph Sollitt & Sons Construction Co., 228 N. La Salle St.; Henry B. Ryan Co., 500 N. Dearborn St., both Chicago, Ill.; S. & W. Construction Co., Shrine Bldg., Memphis, Tenn.; Murch Bros. Construction Co., Railway Exchange Bldg.; Wm. MacDonald Construction Co., Syndicate Trust Bldg., both St. Louis, Mo.; R. P. Farnsworth & Co., Inc., Maritime Bldg., New Orleans, La.; Algernon Blair, First Natl. Bk. Bldg., Montgomery, Ala.; James I. Barnes, Barnes Bldg., Logansport, Ind.; Chas. Weitz' Sons, 713 Mulberry St., Des Moines, Iowa; Christy-Dolph Construction Co., Construction Bldg.; H. W. Underhill Construction Co.; Bellows-MacLay Construction Co.; P. O. B. Montgomery, Construction Industries Bldg., all Dallas, Tex.; E. G. MacLay Co., Post-Dispatch Bldg.; American Construction Co., both Houston, Tex.; Theriault Contracting Co., 534 E. Johnson St., Philadelphia, Pa.; Kaiser-Ducett Co., Rialto Sq. Bldg., Joliet, Ill.; R. F. Ball Construction Co., 511 Elect. Bldg., Annex; Jas. T. Taylor, Aviation Bldg., both Fort Worth, Tex.; Libby & Libby Co., 244 Second Ave., S. Minneapolis, Minn.; Rucks-Brandt Construction Co., Thompson Bldg., Tulsa, Okla.; Yeager & Sons, Danville, Ill.; Elevators: American Elevator & Machinery Co., 500 E. Main St., Louisville, Ky.; Warsaw Elevator Co., Mercer and Grant Sts., Baltimore, Md.; Otis Elevator Co., 810 18th St., N. W.; A. B. See Elevator Co., 1343 H St., N. W.; Houghton Elevator & Machinery Co., Vermont Bldg., all Washington; General Electric Co., Schenectady, N. Y.; Atlantic Elevator Co., Erie Ave. and D St.; Westing-

house Electric Elevator Co., 30th and Walnut Sts., both Philadelphia. 5-21

Tex., Mineral Wells—U. S. Property & Disbursing Officer, Camp Mabry, Austin, receives bids in triplicate until June 5 for 3 kitchen and mess bldgs., 3 administration bldgs., and hay shed, Camp Wolters; information on application.

Tex., Randolph Field—Constructing Quartermaster, Capt. A. W. Parker, opens bids June 8 for about 10,000 window shades for company and non-commissioned officers' quarters. 5-7

Va., Quantico—Navy Dept., Bureau of Yards and Docks, Washington, D. C., has low bid at \$58,700 from Green & Stowe, 532 McDowell St., Welch, W. Va., for disciplinary barracks, U. S. Marine Barracks. 5-21

Va., Mount Vernon—United States Dept. of Agriculture, Bureau of Public Roads, Washington, D. C., has plans ready for bids for terminal bldg., including inn and restaurant, to be erected for Mount Vernon Memorial Highway; E. W. Donn, Jr., Archt.; 1920 K St., Washington; Gilmore G. Clarke, Landscape Archt., 72 W. Pondfield Rd., New York. 12-18

### Hospitals, Sanitariums, Etc.

Ark., Hot Springs National Park—Constructing Quartermaster, Army and Navy General Hospital, Capt. E. M. George, does not expect to receive plans until August for \$1,500,000 reconstruction of hospital. 7-1-30

Arkansas—United States Veterans Bureau, Arlington Bldg., Washington, D. C., erect \$500,000 general hospital in Ozark Mountains section of northwest Arkansas; location probably determined in July. 3-12

D. C., Washington—Constructing Quartermaster, Army Medical Center, has low bid at \$219,875 from H. R. Blagg Co., Dayton, O., for warehouse, bakery and laundry. 5-7

Ga., Savannah—Prospective estimators on remodeling and enlarging U. S. Marine Hospital, bids June 5 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.; Noyes, Roach & Co., 611 Morris Bldg., Joliet, Ill.; North-Eastern Construction Co., Nisson Bldg., Winston-Salem, N. C.; Murphey Pound, Box 422, Columbus, Ga.; Geo. Griffiths Construction Co., Arcade Bldg., St. Louis, Mo.; Samford Bros., Inc., Hodgson-Jones Construction Co., both 301 Washington Ave., Montgomery, Ala.; Geo. D. Auchter Co., 600 E. 4th St.; O. P. Woodcock Co., Duval Bldg., both Jacksonville, Fla.; Claussen-Lawence Construction Co., 2542 Belview Ave., Augusta, Ga.; Theriault Contracting Co., 534 E. Johnson St., Philadelphia, Pa.; John M. Geary Co., Box 211, Asheville, N. C.; Buch Construction Co., Liberty Bank Bldg.; Hull Construction Co., Blun Bldg., both Savannah; Worsham Bros., Empire Bldg., Knoxville, Tenn.; Newport Contracting & Engineering Co., Lee Hall, Va. 5-21

Fla., St. Petersburg—Sisters of St. Francis, operating St. Paul's School, purchased Faith Hospital, 7th Ave. & 11th St., N.; change name to St. Anthony's Hospital; install equipment for crippled children; special equipment for spinal cases; erect solarium.

Ga., Waycross—Ware County Bd. of Comms., reported, has similar low bids from V. C. Parker, Waycross, and Smith-Hendrix Co., Barnett Bldg., Jacksonville, Fla., for \$150,000 hospital; S. Ralph Fetter Archt., 32 W. Forsyth St., Jacksonville. 5-21

Ky., Lexington—Central District Chiropractors, Dr. Henry C. Barnes, Chmn., Bd. of Directors, 316 Guaranty Bank Bldg., plans to purchase bldg. and remodel for hospital.

Mo., Kansas City—City, H. F. McElroy, City Mgr., voted \$2,000,000 bonds for public hospitals. See City and County. 3-19

Mo., Springfield—Department of Justice, Sanford Bates, Director, Bureau of Prisons, Washington, D. C., having plans drawn by Joannes & Marlow, 420 Lexington Ave., New York, for main portion of \$2,500,000 Hospital for Defective Delinquents near Springfield, and by Alan B. Mills, 15 E. 47th St., New York, for tubercular unit of project; plans not yet approved. 5-21

Okla., Shawnee—Department of Interior, Office of Indian Affairs, Washington, D. C., has low bid at \$55,490 from Cooke & Maxey, Elks Bldg., Shawnee, for infirmary, Shawnee Sanatorium. 5-21

S. C., Moncks Corner—Berkeley County, Dr. W. K. Fishburne, County Physician, erect general hospital in or near Moncks Corner; \$35,000 available; like amount to be given by Duke Endowment, 420 S. Church St., Charlotte, N. C. 1-16

Tex., Abilene—State Bd. of Control, Claude D. Teer, Chmn., 304 W. 13th St., Austin, opens bids June 8 for brick, struct. clay tile, struct. steel, stone and rein. conc. men's dormitory, Abilene State Hospital; \$50,000.

2 stories, 150x40 ft., metal lath, built-up 20-yr. pitch and gravel roof, tile, linoleum, terrazzo, asphaltic tile and conc. floors, screens; separate bids for plumbing, heating and elect. wiring, and tunnel; David S. Castle Co., Archt.-Engr., Alexander Bldg. 5-14

Tex., Dallas—Dallas County, F. H. Alexander, County Judge, may call special election on \$360,000 hospital bonds; amount would be added to \$360,000 available by City of Dallas and expended to enlarge 3 units of city-county hospital system; petitions being circulated. 3-26

Va., Richmond—Department of Public Welfare, Dr. W. Brownley Foster, Director, start work by Aug. 1 on \$80,000 addition to Pine Camp, tuberculosis sanatorium; 50 beds; preliminary plans. 2-19

### Hotels and Apartments

D. C., Washington—Dr. Thos. F. Law, 1740 Poplar Lane, N. W., purchased Embassy Apt., 1613 Harvard St., N. W.; improve.

Mo., St. Louis—E. & O. J. Grob, 4723 Ludec St., erect \$10,000 tenement, 4731 Ludec; brick, 2 stories, 38x66 ft., tar and gravel roof, hot air heat.

N. C., Southern Pines—The Highland Park Hotel Co., S. B. Richardson, Pres., plans installing sprinkler system in Highland Pines Inn; committee named by directors to seek bids includes S. B. Richardson, chairman; Dr. W. C. Mudgett, C. T. Patch, A. I. Creamer, F. W. Van Camp. See Want Section—Machinery and Supplies.

S. C., Columbia—Charles C. Wilson, Archt., 1310-12 Central Union Bldg., advises regarding Hotel Jerome project: "It is still deferred, but has not been abandoned." 5-15-30

### Miscellaneous

Ark., Little Rock—Rainbow Gardens, 201 Broadway; \$25,000 to be expended to convert into bowling alleys.

D. C., Washington—British Embassy, care Smith & Edwards, Archts., 1707 Eye St., N. W., has low bid at \$39,400 from C. H. Tompkins Co., 1608 K St., N. W.; for servants' cottage, laundry and garages. 5-21

Fla., St. Augustine—Dwyer-Gallagher interests, owners of St. Johns Park, Flagler County, make improvements to bldgs. and track; establish year-round training quarters.

La., New Orleans—National Undertakers, Inc., Pere Marquette Bldg., expend \$10,000 for improvements to building, 3827 Canal St.; 2 stories, 65x108 ft., brick and conc. work, lumber, millwork, carpentry; Emile Wells, Inc., Whitney Bank Bldg.; bids in. 5-21

Tex., San Antonio—The Saddle Club, Basse Road and San Pedro Ave., having plans by Bartlett Cocke, 65 Maverick Bldg., for \$10,000, 30x90 ft. conc. swimming pool; J. W. Beretta, Engr., 1203 Natl. Bank of Commerce Bldg.

### Railway Stations, Sheds, Etc.

Ga., Cartersville—Seaboard Air Line Co., W. D. Fayette, Ch. Engr., Norfolk, Va., considers erecting freight and passenger stations, probably on Erwin St.

### Schools

Ala., Tuskegee—Tuskegee Normal & Industrial Institute, care Taylor & Pearsley, School Archts., ready for bids in few days for \$300,000 3-story and basement 160x70 ft., rein. conc. brick and tile science building; stone trim, comp. roof; also soon ready for bids for \$200,000, 3-story and basement, 176x87 ft., rein. conc., brick, tile and struct. steel library building; Colonial type; Fosdick & Hilmer, Mech. Engrs., Union Trust Bldg.; T. C. Windham & Son, 1620 Fourth St., N., Birmingham, bidding on library. 5-1

Ark., Jonesboro—Agricultural and Mechanical College, Dr. V. C. Kays, Pres., receives bids July 7 for 4-story, rein. conc. and brick, fireproof administration building; conc. and tile and built-tar and gravel roof, cast stone, dumb waiters, elevators, conc., linoleum, terrazzo, and tile floors, incinerator, limestone, marble, metal doors, gypsum, hollow and interior tile, terra cotta trim, vaults, vault lights, ventilators, wire glass, brass and bronze work; \$200,000, equipment, \$100,000; plans by Estes W. Mann, Cotton Exchange Bldg., Memphis, Tenn., and Peter & McAninch, Inc., Pyramid Bldg., Little Rock; H. E. Eldridge, supervisor of construction. 4-23



D. C., Washington—District Commrs., Roland M. Brennan, Ch. Clk., Engr. Dept., District Bldg., purchased site for 8-room addition to Bancroft School, Newton and Mount Pleasant Sts., N. W.

Fla., Gainesville—University of Florida, P. K. Yonge, Chmn., Martin Bldg., Tallahassee, receives bids June 11 for additions and changes to section E, Thomas Hall; 3 stories and basement, brick, cast stone trim, struc. steel beams and columns, misc. and orna. iron and steel, steel stairs, steel sash, tile and mastic floors; plans by Rudolph Weaver, Archt.; following contractors estimating: O. P. Woodcock Co., Duval Bldg.; J. M. Raymond Construction Co., Hildebrandt Bldg.; All States Construction Co., Inc.; Atlantic & Gulf Construction Co., all Jacksonville.

Fla., Stuart—Board of Public Instruction erect school.

La., Bordelonville—See La., Marksville.

La., Evergreen—See La., Marksville.

La., Baton Rouge—Louisiana State University and Agricultural and Mechanical College, Gov. Huey P. Long, Pres., Bd. of Supervisors, State Capitol Bldg., receives bids July 21, extended date, for 3-story, brick and stucco Fine Arts Bldg. and 3-story, brick field house and recreation center; bids as follows: (1) General; (2) mechanical equipment; (3) electrical; (4) miscellaneous; plans at office Weiss, Dreyfous & Seifert, Inc., Archts., 600 Maison Blanche Bldg., New Orleans, about July 1.

La., Marksville—Avoyelles Parish School Bd. having plans prepared by Wm. T. Nolan, Canal Bank Bldg., New Orleans, for following schools; \$40,000 school in Evergreen School Dist. No. 13; \$30,000 school in Bordelonville School Dist. No. 9, \$15,000 school in Dupont School Dist. No. 14.

La., Shreveport—Following estimating on \$20,000 additions to South Highlands and Creswell School, bids to be received by Caddo Parish School Bd., E. Weldon Jones, Supt., June 10; Ashton Glassell Co., Inc., 260 Cadillac St.; K. C. Wilson, Slattery Bldg.; W. Murray Werner, 417 Milam St.; F. D. Welch, 940 Elmwood St.; Welch & McLain, and McMichael Construction Co., City Bank Bldg.; Edw. F. Nield, Archt., City Bank Bldg.; same firms probably bid on auditorium for Central Negro High School, for which plans are being completed by Edw. F. Nield, City Bank Bldg.

La., Shreveport—Following contractors estimating on \$60,000, 2-story, brick addition to Fair Park School, bids June 10 by Caddo Parish School Bd.; K. C. Wilson, Slattery Bldg.; Ashton Glassell Co., Inc., 260 Cadillac St.; W. Murray Werner, Commercial Bk. Bldg.; Welch & McLain; Garson Brothers, Majestic Bldg.; F. D. Welch, 940 Elmwood St.; Strubbe, McConnell, 3415 Velve St.; McMichael Construction Co., City Bank Bldg.; all Shreveport; Jones, Roessle, Olschner & Wiener, Archts., Ardis Bldg.

Md., Baltimore—City, Public Improvement Comsn., H. J. Leimbach, City Hall, revising plans for \$150,000 School No. 212, Garrett Heights; probably take bids about July 1; Owens & Cisco, Archts., Continental Bldg.; Herman Doeleman, Struc. Engr.; James Posey, Mech. Engr., both Baltimore Trust Bldg.

Md., Baltimore—Bd. of Public Improvement Comsn., H. J. Leimbach, Supvg. Engr., ready for bids in few weeks for \$90,000 addition to School No. 34, Washington Blvd. and Carey St.; Carl F. Strohmeier, Archt., Calvert Bldg.; H. G. Perring, Struc. Engr., Court Square Bldg.; James Posey, Mech. Engr., Baltimore Trust Bldg.

Md., Baltimore—Bd. of Public Improvement Comsn., H. J. Leimbach, Supvg. Engr., has low bid at \$63,118 from W. E. Bickerton Construction Co., 515 Cathedral St., for 2-story, brick, fireproof, 6-classroom school, Morrell Park, Washington Blvd. and Spence St.; John J. Zink, Archt., 2826 Overland Ave.; Kubitz & Koenig, Engrs., Emerson Tower Bldg.; James Posey, Mech. Engr., Baltimore Trust Bldg.

Md., Brooklyn, Baltimore—Public Improvement Comsn., H. J. Leimbach, Supvg. Engr., ready for bids about June 5 for 2-story brick school; Geo. R. Callis, Archt., 13 Melvin Ave., Catonsville; James Posey, Mech. Engr., Baltimore Trust Bldg.; Van Rensselaer Saxe, Struc. Engr., 217 N. Calvert St., all Baltimore.

Miss., Agricola—Agricola Special Consolidated School Dist. Bd. of Trustees received bids June 6 for addition to school; plans at office George County Bd. of Education, Lucedale.

Miss., Paynes—Tallahatchie County Bd. of Education, Charleston, erect school building; bids in.

Miss., Fayette—United Vocational School Bd. of Trustees receives bids June 16 at office M. C. Harper, Supt., Jefferson County Bd. of Education, for brick school and teacher's home; \$20,000; plans by State Dept. of Education, Jackson.

Miss., Sturgis—Sturgis Consolidated School Dist. voted June 5 on \$30,000 bonds for one-story brick school; 90x130 ft., 17 classrooms, auditorium to seat 450 people; D. B. Harton, Sec., Bd. of Trustees.

Miss., Houka—Following contractors estimating on \$20,000, one-story, 150x150 ft., brick school, bids June 19 by Houka Consolidated School Dist. Trustees: W. L. Norman, Houston, Miss.; W. C. Stout, Jackson; T. H. Massengale, 998 Hardy St., Harrisburg; Walter L. Perry, Philadelphia, Miss.; O. B. Douglass Construction Co., Drew; M. J. Landrum, Clinton; Walker Bros., Fayette, Ala.; Badger & Badger, Columbus; D. O. Puckett, Tupelo; T. E. and W. F. Breland, New Augusta, Miss.; Frank P. Gates Co., Archt., New Merchants Bank Bldg., Jackson.

Miss., Magee—Bd. of Trustees of Magee School receives bids June 15 for \$50,000, one-story, 201x103 ft., rein. conc., and brick 14-classroom school; built-up comp. roof; Claude H. Lindsley, Archt., Tower Bldg., Jackson.

Mo., Alton—Board of Education, C. S. Gohn, Sec., having plans drawn by Heckenlively & Mark, 504 Landers Bldg., Springfield, for \$25,000 semi-fireproof consolidated high and grade school; 1 and 2 stories, 130x82 ft., wood floors, conc. foundation, hollow tile, interior plaster, ventilators, steam heat; address equipment proposals to Sec.

Mo., St. Joseph—City defeated \$1,250,000 school bonds.

N. C. Taylorsville—Alexander County Bd. of Education erect \$30,000 Wittenburg School; Q. E. Herman, Archt., Hickory; bids in.

S. C., New Brookland—Following contractors estimating on 2-story and basement, 308x106 ft., brick, stone trim high school, bids June 8 by Bd. of Trustees, School Dist. No. 29: W. A. Cray & Son, 1226 Sumter St.; J. C. Heslep, Carolina Bank Bldg.; Mechanics Contracting Co., Carolina Bank Bldg.; C. M. Lide, Hook Bldg.; Lupo & Holcombe; W. H. Sellars; Geo. W. Waring, 407 Shandon St.; Rutherford Innes Construction Co.; Seastrunk Bros.; E. L. Crooks, 2204 Gadsden St.; Geo. R. Price, 1023 W. Confederate St., all Columbia; J. J. McGrady, New Brookland; Northeastern Construction Co., Nissen Bldg., Winston-Salem; N. C.; Wessinger & Stork, Archts., Arcade Bldg., Columbia.

Tenn., Knoxville—Knoxville College soon start campaign for \$150,000 for building program; plans include \$100,000 science building, \$30,000 power plant and \$20,000 for repairs to building; Dr. J. Kelly Giffin, Pres.

Tenn., Nashville—School Bd., H. F. Srgley, Supt., selected Marr & Holman, Stahlman Bldg., to prepare plans for \$500,000 East Nashville Sr. High School.

Tenn., Nashville—City may issue \$650,000 bonds for ten-year building program, including junior high and elementary schools; H. F. Srgley, Supt. of Schools.

Tex., Brownsville—School Bd., J. P. Maher, Sec., considering erecting two 6- to 8-room schools make improvements to present structures; \$80,000 bond issue proposed.

Tex., Beeville—Beeville Ind. School Dist. Bd. of Trustees, John R. Beasley, Pres., has low bid at \$96,500 from Smith & Galbraith, Harlingen, for grade school, Mexican school, negro school, gymnasium, and repairs to senior high and grammar schools; plumbing and heating, \$21,775; Jud & Ormond, 703 N. Flores St.; electric, \$3470, Graham & Collins, Main Ave., at Quincy St.; Malcolm G. Simons, Builders Exchange Bldg., San Antonio, and Beeville, and W. C. Stephenson, Asso. Archts.

Tex., Beaumont—French School Dist. holds election June 13 on \$60,000 bonds for addition to Edwards School; 6 additional classrooms and other space; H. C. Mauer, Archt., 950 Spruce St.

Tex., Galveston—School Bd., John Neethe, Pres., U. S. National Bank Bldg., approved plans by R. R. Rapp, Guaranty Bldg., Galveston, and Giesecke & Harris, Norwood Bldg., Austin, Asso. Archts., for \$300,000, 2-story, rein. conc. and brick Jr. High School, between T and U and 39th and 41st Sts.; 500 ft. long with two wings 180 ft. depth; gymnasium 70x25 ft., 22 classrooms, 2 study halls, music room and library, auditorium to seat 846 people; accommodate 1150 pupils.

Tex., Pettus—Pettus Common School Dist., Leroy Roberts, Pres., School Bd., receives bids June 10 for \$35,000, one-story, brick, tile and rein. conc., 6-room, auditorium and library school; Hamon & Co., Archts., 501 Medical Professional Bldg., Corpus Christi.

Tex., Rio Grande City—Rio Grande City Ind. School Dist., Oscar T. Vale, Sec., School Bd., has low bid at \$35,755 from Ortiz Bros., Laredo, for one-story, brick and rein. conc. grammar school; R. Newell Waters, Archt., Weslaco; W. E. Simpson Co., Engr., 942 Milam Bldg., San Antonio.

Tex., San Antonio—School Bd. plans grade school in Ivanhoe Heights.

Tex., San Angelo—Glenmore School Dist. votes within 4 to 6 weeks on \$12,000 school bonds.

Tex., San Marcos—San Marcos Ind. School Dist. has plans in progress for \$200,000 building to include high school, grammar school, auditorium, cafeteria and gymnasium; fireproof; Harvey P. Smith, Archt., Natl. Bank of Commerce Bldg.; W. E. Simpson & Co., Engr., Milam Bldg., both San Antonio.

Tex., Winona—School Bd. having plans prepared by E. A. Linebaugh, Dallas, for \$35,000, 12-room school.

Va., Accomac—Accomac County, John E. Nottingham, Judge, called election June 30 in Lee and Pungoteague districts on bonds as follows: \$60,000 for brick high school, Accomac Court House; \$10,000 school, Tangier Island; \$68,500 brick bldg. for Central High School, Painter; \$2000 frame bldg. at Quinby; \$4500 frame bldg., Harborton.

Va., Painter—Accomac County; \$68,500 bonds for brick bldg. for Central High School; election June 30. See Schools, Va., Accomac.

Va., Port Richmond—Blessed Sacrament Roman Catholic Parish, Rev. J. S. Laubowski, Pastor; 120x120 ft. school and 2-story, 40x33 ft. convent; J. W. Atkinson & Co., Lyric Bldg., Richmond, lately noted as contractor, advises does not have contract, revising plans; A. Byron Williams, Archt., Citizens & Marine Bk. Bldg., Newport News.

Va., Onancock—Accomac County, John E. Nottingham, Judge, Accomac, erect \$18,000 addition to high school.

Va., Tangier—Accomac County; \$10,000 school bonds, election June 30. See Schools, Va., Accomac.

### Stores

Ga., Albany—S. H. Kress & Co., 114 Fifth Ave., New York, have low bid from G. A. Miller, Inc., Peteway Bldg., Tampa, Fla., for 2-story and basement, 150x44 ft., rein. conc., struc. steel, brick and hollow tile store; stone trim, steam heat; plans by Edw. F. Sibbert, Archt. for company.

Ga., LaGrange—Callaway Mills, care Fuller E. Callaway, Jr., erect 3-group store bldg.; 11 units; face and common brick, struct. steel beams, 1-story, 115x62 ft., 52x62 ft. and 94x60 ft., conc. foundations, cast cement or terra cotta coping, wood and cement floors, sheet metal work; Ivey & Crook, Archts., Candler Bldg., Atlanta, following to estimate; Donald McIver, 1105 Candler Bldg.; W. B. Hiers, 1497 Westwood Ave., S. W., both Atlanta; Daniel Lumber Co., Newman Lumber Co.; Fellows & Melton, all La Grange.

Md., Baltimore—Dr. Louis Handelman, 4221 Pimlico Rd., erect \$10,000 store, residence and garage, Pimlico Road and Park Heights Terrace; Fredk. E. Beall, Archt., 334 St. Paul St.; bids in.

Mo., St. Louis—Walter Abrolat, 841 Catskill Drive, has permit for 2 one-story, 34x41 ft., brick tenements, 4015-21 Fairview St.; \$10,000, comp. roof, hot air heat.

Tenn., Chattanooga—Harry Miller, Fort Wood Apts., having plans prepared by C. A. Wheeler, Inc., 140 N. Dearborn St., Chicago, for improvements to Vogue, women's wear store; W. H. Sears and Percy B. Shepherd, Asso. Archts., both James Bldg., Chattanooga.

Tex., Dallas—Russell V. Rogers, 2923 Lemman St., has permit for \$10,000 brick and tile bldg., 715-23 N. Ervay St.; 2 stories.

Tex., Rio Grande City—C. Valle Hardware Co. erect brick store on Main St. to replace structure recently noted burned.

### Theatres

Ala., Birmingham—Trilanon Theater, 1926 Second Ave., N., George Steele, Mgr., remodel building.

Tex., Dallas—Hughes-Franklin Theaters Co., Harold B. Franklin, Pres.-Gen. Mgr., Los Angeles, erect \$250,000 motion picture theater in Mission Shopping Dist. Preston Road and Mocking Bird Lane, Highland Park; seat 1400 people.

### Warehouses

Tex., Austin—Herman Becker, Sr., care Becker Lumber Co., 87 Congress St., soon ready for bids for \$40,000, 2-story, 128x140 ft., brick, steel and rein. conc. warehouse, Third and Trinity Sts.; Roy L. Thomas, Archt., Littlefield Bldg.; Scobey Fireproof Storage Co., Lessee, 315 N. Medina St., San Antonio.

## BUILDING CONTRACTS AWARDED

### Association and Fraternal

La., Plaquemine—Columbia Catholic Assn., E. F. Kimberger, Chmn., Bldg. Comm., let contract at \$16,495 to L. W. Eaton, 1601 North Boulevard, Baton Rouge, for Knights of Columbus bldg.; rein. conc., brick and cast stone, rein. and struct. steel, rein. conc. foundation, comp. roof, gas heat, steel sash, terra cotta; Wm. R. Burke, Archt., Balter Bldg., New Orleans. 5-28

Tenn., Chattanooga—Junior Order, United American Mechanics, erect bldg. adjoining present structure, Market St. bridge; remodel and install heating equipment in present bldg.; \$30,000; brick, steel and conc., 3 stories on first floor, 3 five-room apartments on second floor, lodge rooms and banquet hall on third; W. H. Sears, James Bldg., Archt.; Percy B. Shepherd, Asso. Archt., 208 Windmere Dr.; Smith Bros., Contrs., 213 E. 10th St.; work started. 5-14

### Bank and Office

N. C., Charlotte—H. M. Wade Manufacturing Co., S. Graham St., Charlotte, has contract to remodel first floor of First National Bank Bldg., 22 S. Tryon St., for Federal Reserve Bank of Richmond, 9th and Franklin Sts., Richmond, Va. 5-14

Okla., Oklahoma City—Michaels Art Bronze Co., Covington, Ky., installing Alcoa Aluminum orna. work in \$3,000,000 bank and office bldg. under constr. for First National Bank & Trust Co., 140 W. Main St.; Weary & Alford, Archts., 1923 Calumet Ave., Chicago, Ill.; Edw. Smith, Resident Archt., Amer. Natl. Bk. Bldg., Oklahoma City; Manhattan Construction Co., Contr., Manhattan Bldg., Muskogee, Okla., and Tulsa, Okla. 5-12

Tex., Galveston—G. D. Harris & Co., 109 W. Jefferson St., Dallas, has heating and plumbing contract for \$1,000,000 general office bldg. for Gulf, Colorado & Santa Fe Railway Co., 25th and B Sts., on which foundation piling is completed, conc. footings two-fifths poured and steel erection to start June 1; elevators, Otis Elevator Co., American National Insurance Bldg.; piling work by Kirby Lumber Co., Kirby Bldg., Houston; plans by Engineering Dept., K. B. Duncan, Ch. Engr., 3205 O St., Galveston; Robt. E. McKee, Contr., 1900 Texas St., El Paso. 5-14

### Churches

Tex., Lampasas—Church of Christ started work on frame bldg., First and Walnut; 38x50 ft.; contract let. 5-14

Tex., Wichita Falls—First M. E. Church, South, 909 10th St., let contract at \$53,994 to C. H. Reid Construction Co., Staley Bldg., Wichita Falls, for Sunday school; fireproof, mill constr., 3 stories and 1 story, 135x96 ft., pine floors, steel panels, metal lath, rein. conc. foundation, built-up tar and gravel roof, steel sash and trim, cast stone, limestone; dining room seat 350; Ray C. Arnold, Archt., 910 Staley Bldg., Wichita Falls; R. F. Taylor, Mech. Engr., Santa Fe Bldg., Dallas. 5-7

### City and County

Tex., Corpus Christi—The Bonner Co., 415 Peoples St., has contract for office equipment for \$100,000 Nueces County court house annex; Dielmann & Levy, Archts.-Engrs., State Natl. Bank Bldg. 4-23

Tex., Del Rio—Val Verde County Bd. of Commrs. let contract at \$15,700 to Southwestern Construction Co., Del Rio, to remodel court house and jail; Henry P. Phelps, Archt., Hicks Bldg., San Antonio. 4-23

Tex., Beaumont—Michaels Art Bronze Co., Covington, Ky., has ornamental contract at \$51,000 for \$1,000,000 Jefferson County court house; Fred A. Stone, Goodhue Bldg., and A. Babin, Perlstein Bldg., architects; McDaniel Bros., Contrs., Kyle Bldg., all Beaumont. 4-23

### Dwellings

D. C., Washington—Shannon & Luchs Inc., 1435 K St., N. W., have permit for 11 brick, stone and stucco dwellings, 6000-10 and 6001-09 34th Place, N. W.; 2 stories; total \$88,000; owners build. 5-14

Fla., Coral Gables, Miami—Roy VanDevere, 936 Castile Ave., started work on \$10,000 residence and garage, 936 Castile Ave.; rein. conc., conc. block and stucco; Lester Avery, Archt.; C. E. Haley, Contr., both 308 Seybold Bldg., Miami. 5-14

Fla., Miami Beach—Wm. Williams, Maridian Ave., started work on walls and dock for \$40,000 residence; conc. block, 2 stories, 55x90 ft., linoleum, tile and oak floors, tile

roof, cast stone, elect. refrigerators, sprinklers, steel sash and trim; Lester Avery, Archt., Box 2207, Miami; Wilbert Harborn, Contr., 2618 Greenway Drive, Coral Gables. 5-14

Ga., Atlanta—Emmett Landrum, 326 Inman St., S. W., erect brick veneer residence, 1594 Beecher St., S. W.; comp. roof, 1 story; owner builds. 5-14

Ga., Atlanta—Alfred B. Sherwood, 2292 Parkwood Lane, N. E., erect brick veneer residence, Stovall Blvd., Brookhaven; 2 stories and basement, 4 baths, 10 rooms, slate or tile roof, steam heat; owner builds. 5-14

Ga., Atlanta—Herbert Porter, care Atlanta Georgian, let contract to Chas. Black, Jr., Atlanta Trust Bldg., for \$25,000 residence, 19 Tuxedo Rd.; brick veneer, stone trim, 2 stories and basement, conc. foundation, hardwood and tile floors, slate or tile roof, steam heat; Frazier & Bodin, Archts., Candler Bldg. 5-14

Ga., Atlanta—Thos. K. Windham, Inc., Mtg. Guar. Bldg., erect \$12,000 brick veneer dwelling, Clifton Rd., N. E.; 2 stories, hardwood and tile floors, conc. foundation, steam heat; owner builds. 5-14

Ga., Atlanta—C. B. Eubanks, 1495 Forrest Ave., N. E.; erect brick veneer residence, 1245 Lanier Blvd., N. E.; 1 story, hardwood and tile floors, comp. roof, hot air heat; owner builds. 5-14

Ga., Atlanta—Thos. B. Paine, 425 Peachtree-Battle Ave., let contract at \$11,000 to A. J. and J. C. Grubbs, Linden St., for brick veneer residence, 12 Montview Drive; 2 stories, 51x36 ft., oak and tile floors, brick foundation, shingle tile roof; J. M. Russell, 907 Standard Bldg. 5-28

Ga., Atlanta—Emmett H. Landrum, 326 Inman St., S. W., erect brick veneer residence, 1594 Beecher St., S. W.; 1 story, comp. roof, 6 rooms; owner builds. 5-14

Ga., Atlanta—Norris Construction Co., 161 Spring St., N. W., started work on dwelling, Collier Rd.; brick veneer, 2 stories, conc. foundation, hardwood and tile floors. 5-14

Ga., Columbus—Major B. H. Hardaway, 1508 Third Ave., excavating for \$70,000 residence, Warm Springs Rd.; rubble stone, brick and cast stone, 2 stories, 97x83 ft., oak floors, conc. foundation, slate (hip) roof with copper sheet metal oak, linoleum and tile floors; Smith & Biggers, Archts., Murrah Bldg.; Williams Lumber Co., Contr., 13th St. See Want Section—Building Material and Equipment. 5-21

Ga., Covington—S. A. Ginn, care Ginn Motor Co., started work on brick veneer residence; 2 stories and basement, hardwood and tile floors, steam heat; day labor. 5-14

Ga., Thomaston—W. C. Day started work on brick veneer residence; 1½ stories and basement, tile roof, hardwood and tile floors, steam heat; owner builds. 5-14

La., New Orleans—Albert C. Jacobs, 472 Lowerline St., erect \$11,300 residence, Versailles and Claiborne Sts.; E. L. Markel, Contr., 3838 Louisiana Ave. Pkwy. 5-14

Maryland (Montgomery County)—Sears, Roebuck & Co., Chicago, Ill., (building dept.) and New York capitalist, reported, plan community development over period of years, to include erection of about 130 dwellings, at Braemar Forest, Montgomery County, Md.; total expenditure about \$9,000,000; company to be formed to supervise project. 5-14

Md., Baltimore—Ed W. Riddle, 2914 White Ave., erect 6 frame dwellings, Southern Ave.; 2 stories, 25x27 ft.; owner builds. 5-14

Md., Baltimore—E. F. Baldwin, 2630 N. Charles St., erect frame residence, Westfield Ave.; 1½ stories, 24x40 ft.; owner builds. 5-14

Md., Baltimore—Henry E. Wyman, 19 W. Lexington St., erect Colonial residence, Smithvale Rd.; white brick, 11 rooms, 4 baths; Kenneth C. Miller, Archt.; Peyton B. Strobel Construction Co., Contr., both 206 E. Lexington St. 5-14

Md., Baltimore—J. Irvin Bealmear, Fidelity Bldg., erect number 2-story brick dwellings; 2-story dwelling, Windsor Mill Rd.; 20x30 ft. hardwood floors, stone foundation, comp. roof; John R. Forsythe, Archt., 16 E. Lexington St., owner builds. 5-14

Md., Baltimore—H. W. Woodward, 25 Light St., let contract to C. K. Wells, 3538 Old York Rd., for residence, Poplar Hill; brick or stone, 2½ stories, slate roof, vapor or hot water heat; Edw. H. Glidden, Jr., Archt., 18 E. Lexington St. 2-26

Md., Baltimore—American Building Co., 5449 Jonquil Ave., erect 6 stone and stucco dwellings, 5416-26 Narcissus Ave.; 2 stories, 16x38 ft., total \$15,000. 5-14

Mo., St. Louis—Mabel Taylor, 3125 Watson St., erect 3 brick dwellings, 3145-49 Watson St.; 1 story, 29x45 ft., comp. shin-

gle roofs, hot air heat; Lawrence Steffen, Archt., 5045 Grace St.; Harry Hardt, Contr., 3125 Watson. 5-14

N. C., Charlotte—Myers Park Co. erect 2 brick veneer dwellings, 1700-4704 Beverly Drive, Myers Park; \$7000 each; Mallonee Co., Builders Bldg., Contr. 5-14

N. C., Chapel Hill—Mr. Flynn erect \$13,000 residence; Geo. W. Kane, Contr., Roxboro. 5-14

Tex., Houston—Dr. F. O. Callaway, Medical Arts Bldg., let contract to L. B. Geiger, 2715 Palm St., for \$25,000 residence, River Oaks; English type; Robt. C. Smallwood, Archt., Esperson Bldg. 5-14

Va., Urbanna—Wm. Lawrence Bogert, Rosehill Estate, remodel and enlarge residence; Buckler & Fenhagen, Archts., 325 N. Charles St.; Jas. Posey, Engr., Balto. Trust Bldg.; Willard E. Harn, Inc., Contr., 2314 Oak St., all Baltimore, Md. 5-14

### Government and State

D. C., Washington—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., let contract at \$27,390 to Udelson Excavation & Wrecking Co., Cleveland Heights, Cleveland, O., for preliminary excavation and fence for \$8,750, 000 U. S. Archives Bldg., Pennsylvania Ave., L. Seventh and Ninth Sts., N. W.; fireproof, stone, 7 stories; John Russell Pope, Archt., 542 Fifth Ave.; H. G. Balcom, 10 E. Fourth St.; Clyde R. Place, Mech. Engr., 420 Lexington Ave., all New York. 5-14

Ga., Fort Benning—Following firms awarded material contracts for 57 company officers' quarters, for which Rogers & Leventhal, Inc., 822 E. 11th St., Chattanooga, Tenn., have gen. contract at about \$542,000; Plumbing and heating, Bennett Plumbing & Heating Co., 123 Brainerd Rd., \$80,000; tile and marble, Standard Tile Co., Zanesville, Ohio, \$20,000; struct. steel, Converse Bridge & Steel Co., Anderson St., \$12,000; orna. iron, Standard Iron & Wire Works, 510 E. 10th St., \$2500; cement, Penn-Dixie Cement Co., James Bldg., \$25,000; misc. iron, Chattanooga Implement & Manufacturing Co., First St., \$1000; overhead garage doors, Nixon-Hasselle Co., 1300 Carter St., \$2500; kalamein doors, Currin-Andrews Co., 821 E. 11th St., \$1500; hydrated lime, Gager Lime Mfg. Co., Provident Bldg., \$1200; steel windows and medicine cabinets, W. L. Love & Son, \$1400, all Chattanooga; sub-contracts let for brick work at \$46,300 to W. C. Rogers, Bird's Mill Rd., and for plastering at \$65,000 to L. W. Vetter, 821 E. 11th St., both Chattanooga. 4-16

Tenn., Jackson—Col. R. H. Bord, Chmn., Bldg. Comm., let contract at \$92,000 to H. A. Maguire & Co., Derron Bldg., Memphis for armory; plumbing, \$4600, H. W. Smith Plumbing Co.; heating, \$8700, Vurtis Plumbing Co.; wiring, \$3400, Electric Shop, all Jackson; brick, conc. steel and wood, 3 stories and 1 story, 218x153 ft., tile, comp. wood and conc. floors, conc. foundation, built-up flat roof; cast stone, metal doors, plaster board, tile; Parish & Tuggle, Archts., 314 McCowat Mercer Bldg., Jackson. 4-23

Miss., Natchez—Constructing Quartermaster, Fort McPherson, Atlanta, Ga., let contract to Smith-Pew Construction Co., Inc., 435 Irwin St., N. E., Atlanta, for lodge and service bldgs., U. S. National Cemetery. 4-30

Mo., Kansas City—Haughton Elevator & Machine Co., Vermont Bldg., Washington, has contract at \$129,867 for elevator plant for \$4,500,000 post office; mail handling equipment, Alvey-Ferguson Co., North Ave., Oakley, Cincinnati, O., at \$276,983; Ring Construction Co., Gen. Contr., Milwaukee, Wis. 5-28

Tex., Fort Sam Houston, San Antonio—A. J. Monier & Co., 1446 N. Flores St., San Antonio, has contract for gas burning equipment for heating boilers and lavatory boilers in 26 bldgs. in artillery unit; Plibrico Jointless Firebrick Co., 7840 Kingsbury St., Chicago, Ill., has contract for plastic refractory furnace lining, Bldg. No. 77-51. 5-14

Tex., Randolph Field—C. Wallace Plumbing Co., 2224 Summer St., Dallas, has contract at \$17,980 for central heating system for Air Corps engineering shops. 5-7

Va., Arlington National Cemetery—Constructing Quartermaster, 2335 Munitions Bldg., Washington, D. C., let contract to Keegan & Graves, 1181 Preston Ave., Charlottesville, Va., for supt's lodge. 5-7

Va., Langley Field, Hampton—Following sub-contracts let on 16 double company officers' quarters, for which M. H. Sobel Co., 1031 First Natl. Bank Bldg., Detroit, Mich., has gen. contract: Hardware, Rayl's; cut stone, Southern Cut Stone Co., Detroit, Mich.; brick, Benson, Phillips Co., Newport News, Va.; glass and glazing, Building Supplies Corp., 1900 Monticello Ave., Norfolk, Va.; lath and plaster, Floyd Jennings & Co., Inc., 132 Cain St., N. E., Atlanta, Ga.; tile and marble, J. D. Parrish & Co., Portsmouth, Va.; struct. steel, etc., Rich-



**Couplings.**—The Morse Chain Company, Ithaca, N. Y., has issued bulletin No. 40 devoted to the Morse Midget, a small flexible coupling consisting of two sprockets wrapped by a chain. The coupling is made in a range of sizes for all standard shaft diameters up to one inch.

# WANT SECTION

## THE CLASSIFICATIONS IN THIS SECTION ARE:

### Machinery and Supplies

Under this heading are reported requests for data, prices and literature and information on machinery, supplies and miscellaneous materials of a wide variety.

### Building Materials and Equipment

This division comprises all classes and kinds of materials and equipment used in building and construction projects of every kind.

### Bids Asked

Includes bids asked by U. S. Government, States, districts, municipalities, firms and individuals for machinery, materials, supplies and construction work.

Items in this department are published without charge and these columns are open for the publication of wants of all kinds relating to construction work, machinery, materials and supplies.

### Machinery and Supplies

**Alfalfa Drying Equipment.**—Shreveport Machinery Sales Co., P. O. Box 840, Shreveport, La.—Wants prices and data on equipment for drying alfalfa for baling.

**Canning Plant.**—Lumberton Merchants Association, Inc., Lumberton, N. C.—Wants prices and data on 500 to 1000-can daily capacity used canning plant.

**Diatomaceous Earth Mining and Refining Machinery.**—Hugh W. Wear, P. O. Box 125 Bartow, Fla.—wants prices and data on machinery for mining and refining diatomaceous earth.

**Grinder.**—W. M. Smith & Co. (Mch. Dealer), Box 1709, Birmingham, Ala.—Wants prices and data on grinder for 6-in. emery, air operated.

**Shears.**—Southern Wire & Iron Works, 305 Martin St., S. E. Cor. E. Fair St., Atlanta, Ga.—Wants prices and data from manufacturers on alligator or hand shears for cutting 1/2-in. bars.

**Sprinkler System.**—Highland Park Hotel Co., S. B. Richardson, Pres., Southern Pines, N. C., plans installing sprinkler system in Highland Pines Inn, and wants prices and data.

**Truck Trailer Parts.**—Steel Products Co., Lathrop Ave., Savannah, Ga.—Wants prices and complete information on parts for truck trailers, in quantities, including axles, wheels, fifth wheels, springs, tires, etc.

**Wire-Working Tools.**—Miss Amy Burkett, 115 Stuyvesant Pl., St. George, S. I., New York—Wants prices and data on wire-working tools for manufacturing small articles of wire, such as dress hooks and eyes, hair pins, paper clips, etc.

### Miscellaneous

Miss Amy Burkett, 115 Stuyvesant Pl., St. George, S. I., New York—Wants prices and data on following:

- (1) Dress Hooks and Eyes, Snap Fasteners, Safety Pins, etc.
- (2) Wire—rust proof, for manufacturing articles listed above.

### Building Material and Equipment

Rev. B. M. Larson, Pastor, Presbyterian Church, Athens, Tenn., wants prices on following for 2-story and basement dormitory, Bachman School and Home, Fanner, Tenn.:

**Flooring**—hardwood  
**Furnishings**—beds, mattresses, etc.  
**Plaster Board**  
**Roofing (flat)**—built-up.  
Williams Lumber Co., 13th St., Columbus, Ga., wants prices on following for \$70,000 dwelling:

**Cast Stone**  
**Flooring**—hardwood, linoleum, tile  
**Roofing (hip)**—slate; copper work.  
J. M. Ingram, Archt., 19 Price Bldg., Bowling Green, Ky., wants prices on following:  
**Cast Stone**  
**Dumb Waiters**  
**Electric Refrigerators**  
**Elevators**  
**Flooring**—hardwood, linoleum, terrazzo, tile, composition  
**Incinerator**  
**Imestone**  
**Mail Chutes**  
**Marble**  
**Metal Ceilings**  
**Metal Doors**  
**Plaster Board**  
**Rolling Partitions**  
**Roofing**—asbestos shingle, asphalt shingle, built-up, slate, tile  
**Sprinklers**  
**Steel Sash and Trim**  
**Tile**—gypsum, hollow, interior  
**Terra Cotta Trim**  
**Vaults**  
**Vault Lights**  
**Ventilators**  
**Wire Glass**  
**Brass and Bronze Wire.**

John T. Blevins, Contr., 22 Water St., Van Buren, Ark., wants prices on following for \$28,000 school:

**Composition Blackboard**  
**Wood Back Cork Board.**

DeCamara & Chace, Inc., Contrs., 5 Plaza Bldg., Palm Beach, Fla., want prices on following for \$50,000 addition to Boca Raton Club, Boca Raton, Fla.:

**Flooring**—terrazzo  
**Leaded Glass**  
**Roofing**—tile  
**Sliding Doors and Transoms**—bronze (3)  
**Tile**—hollow.

### Bids Asked

**Armor.**—Bureau of Ordnance, Navy Dept., Washington, D. C.—Bids June 22 for 1120 tons armor.

**Asphaltic Bitumen.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 10 for 1100 gal. asphaltic bitumen, delivery Quantico, Va.

**Auto Parts.**—Pur. and Contracting Officer, Holabird Q. M. Depot, Baltimore, Md.—Bids June 8 for spare parts for White trucks.

**Automobiles.**—Comms., District of Columbia, Washington, D. C.—Bids June 9 for 15 coaches, 20 coupes and 4 station wagons.

**Bear-trap Castings.**—U. S. Engr. Office, Huntington, W. Va.—Bids June 9 for bear-trap castings for Dams 22, 26 and 28, Ohio River.

**Boiler.**—See Electric Plant Equipment.

**Bridges.**—State of West Virginia—Bids for 3 bridges. See Construction News—Roads, Streets and Paving.

**Cafeteria Equipment.**—Treasury Dept., Office of Supvg. Archt., Washington, D. C.—Bids June 24 for installing cafeteria equipment at U. S. post office, court house and custom house, Richmond, Va.

**Chairs.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 12 for 133 gangs (3 chairs each), steel frame assembly hall chairs, delivery Quantico, Va.

**Checkpoint.**—U. S. Engr. Office, Huntington, W. Va.—Bids June 8 for checkpoint for Ohio River guide walls.

**Coal Loader.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 10 for portable coal loader, delivery Quantico, Va.

**Coal.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 8 for coal, delivery Quantico, Va., Charleston, S. C., Parris Island (Fort Royal) S. C., New Orleans, La., Key West, Fla., Portsmouth, Va., Yorktown, Va., and Hampton Roads, Va.

**Coal.**—U. S. Engr. Office, Second Dist., New Orleans, La.—Bids June 19 for bituminous coal as required during fiscal year 1932.

**Cofferdam Frame.**—U. S. Engr. Office, Huntington, W. Va.—Bids June 8 for struc. steel cofferdam frame.

**Crushed Stone, Sand and Granite.**—Augusta Arsenal, Augusta, Ga.—Bids June 17 for 50 tons crushed stone and granite, 1/4 to 1 1/2 in., and for 50 yards sand, for mixing with stone and cement.

**Drainage.**—Bd. of Comms., Fifth Levee Dist., Office of Bd. of State Engrs., New Orleans Court Bldg., New Orleans, La.—Bids June 16 for Glascock Pft drainage, Concordia Parish, 6000 cu. yd.; Grinnell Lake-Bayou Roundaway Drainage Canal, Madison Parish, 223,000 cu. yd.

**Drainage.**—Bd. of State Engrs., 207 New Orleans Court Bldg., New Orleans, La.—Bids June 16 for Reid-Bedford Canal No. 2, Madison Parish, 22,000 cu. yd.

**Dredging.**—U. S. Engr. Office, Mobile, Ala.—Bids June 20 for dredging approx. \$5,620,000 cu. yd. material, Mobile Bay Channel.

**Dredging Pump and Spares.**—U. S. Engr. Office, P. O. Box 45, Jacksonville, Fla.—Bids June 9 for dredging pump and spares.

**Drills.**—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids June 23 for breast and hollow handle drills.

**Elevator.**—Treasury Dept., Office of Supvg. Archt., Washington, D. C.—Bids June 15 for installing passenger elevator, etc., in U. S. post office and courthouse, Paducah, Ky.

**Electrical Wiring, Pole Line, etc.**—Comms., District of Columbia, Washington, D. C.—Bids June 8 for furnishing and installing electrical wiring, pole line, etc., at Home for Aged and Infirm, Blue Plains, D. C.

**Electric Plant Equipment.**—Bd. of Public Works, L. T. Dameron, Jr., Sec., Macon, Ga.—Bids June 9 for 750-kw. turbo-generator; 300-h. p. water tube boiler; plans and specifications from the Board and from Beaumes-McDevitt Co., Consult. Engrs., Railway Exchange Bldg., St. Louis.

**Forgings.**—Bureau of Ordnance, Navy Dept., Washington, D. C.—Bids June 25 for 24 sets 2"/55 gun forgings and 30"/25 gun barrel forgings.

**Gas Ranges.**—Quartermaster, Fort Brown, Brownsville, Tex.—Bids June 8 for 12 gas ranges.

**Gasoline.**—Quartermaster Supply Officer, U. S. Army, Washington, D. C.—Bids June 19 for gasoline for various deliveries during fiscal year.

**Hack Saws.**—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids June 16 for motor driven hack saws.

**Heating Boiler.**—Treasury Dept., Office of Supvg. Archt., Washington, D. C.—Bids June 19 for heating boiler, etc., at U. S. post office, Centralia, Ill.

**Heating Boiler, etc.**—Treasury Dept., Office of Supvg. Archt., Washington, D. C.—Bids June 23 for new heating boiler, plumbing and heating changes, U. S. post office, Brunswick, Ga.

**Heating Boilers.**—Treasury Dept., Office of Supvg. Archt., Washington, D. C.—Bids June 17 for 2 new cast iron heating boilers at U. S. post office, court house and custom house, New Bern, N. C.

**Heating Boiler, etc.**—Treasury Dept., Office of Supvg. Archt., Washington, D. C.—Bids June 18 for new heating boiler, etc., U. S. post office, St. Charles, Mo.

**Hot Water Piping.**—Treasury Dept., Office of Supvg. Archt., Washington, D. C.—Bids June 19 for renewal of hot water piping in U. S. Treasury Bldg., Washington.

**Lamp Posts.**—Comms., District of Columbia, Washington, D. C.—Bids June 18 for 12 rein. conc. lamp posts for use on New York Ave. bridge.

**Lathes.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 8 for 4 lathes, delivery Philadelphia, Pa.

**Lens.**—Hydrographic Office, Navy Dept., Washington, D. C.—Bids June 8 for 36-in. focus process lens.

**Levee.**—U. S. Engr. Office, Second New Orleans Dist., foot of Prytania St., New Orleans, La.—Bids June 25 for 11,000,000 cu. yd. earthwork. See Construction News—Miscellaneous Construction.

**Lowering Devices, Mowers, etc.**—Commanding Officer, Washington Quartermaster Depot, 20th and C St., N. W., Washington, D. C.—Bids June 10 for lowering devices, mowers, etc.

**Lumber.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 12 for lumber, delivery Quantico, Va.

**Machinery, Tools, etc.**—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids June 16 for hammers and axes; universal turret lathe, geared head with pedestal motor drive, complete with equipment; motor driven tool and cutter grinder; combination woodworking machine; motor driven grinder and buffer; bids June 23 for taps, tap wrenches and diestocks.



# ♦ C O L E ♦



## 500,000 Gallon Tank

erected for City of St. Petersburg, Fla. Cole tanks both in design and workmanship offer very distinctive advantages. They embody the most revised requirements of all insurance authorities.

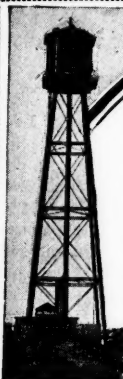


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Generosity typifies the design and construction of Caldwell Structural Towers. To provide the strength and sturdiness that have marked the unusual success of this type of tower for heavy loads and great heights we have spared no precaution in material or workmanship.

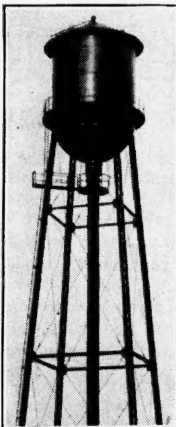
This tower is built of heavy structural shapes thoroughly laced and riveted together by the most modern scientific engineering methods. It is built for steel or wood tanks in capacities from 15,000 gallons upward.

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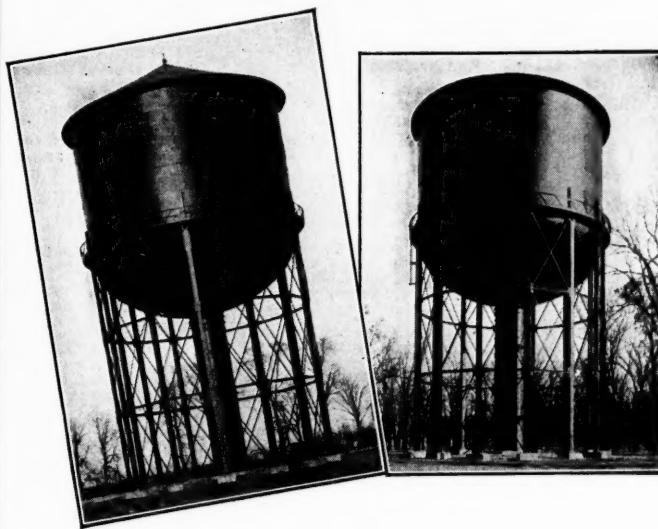
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CHATTANOOGA, TENN.

**TANKS**

# PITTSBURGH DES MOINES



## Two Million Gallons That's a lot of Water!

Until late summer 1930 the City of Columbus, Ohio, was confronted with a distinct and threatening water supply problem. Peak load demands and a prolonged drought cut heavily into available water reserves and pressures to outlying supply mains were seriously reduced. Domestic service complaints mounted.

In September, 1930, "Pittsburgh-Des Moines" completed the erection of the above two identical 1,000,000 gallon capacity hemi-ellipsoidal tanks. The tank shown at the left is in North Park; the tank at the right is ten miles distant in West Park.

This 2,000,000 gallon reserve of water is *always there*—at a strong gravity pressure—for domestic supply, adequate fire protection and other municipal uses—a comforting assurance for emergencies and droughts.

Our thirty-eight years' experience in the municipal contracting field may help to solve *your* problem.

QUALITY  TANKS

### Other "Pittsburgh-Des Moines" Products

Steel Reservoirs	Complete Water Works Systems
Steel Standpipes	Water Treating Plants
Steel Pipe Lines	Gasoline and Oil Tanks
Structural Steel Work	Municipal Incinerators
Highway Bridges	Steel Grandstands
General Steel Plate Fabrication	

## Pittsburgh - Des Moines Steel Company

3420 Neville Island, Pittsburgh, Pa.

626 Glenn Building, Atlanta, Ga.

Des Moines  
Chicago

Seattle  
San Francisco

New York  
Dallas

**Mechanical Refrigerators.**—Commanding Officer, Washington Quartermaster Depot, 20th and C Sts., Washington, D. C.—Bids June 12 for mechanical refrigerators.

**Motors.**—Sewerage and Water Board, office of Purchasing Agent, Room 502, No. 526 Carondelet St., New Orleans, La.—Bids July 15 for two 450-h. p. and two 250-h. p. vertical synchronous motors for Stations 6 and 7.

**Oils, Gasoline, etc.**—Quartermaster Office, 20th and C Sts., N. W., Washington, D. C.—Bids June 17 for oils, greases, antifreeze and gasoline as required during 6 month period ending Dec. 31, 1931.

**Pipe Castings (Suction and Discharge).**—U. S. Engr. Office, P. O. Box 45, Jacksonville, Fla.—Bids June 10 for suction and discharge pipe castings for dredge Pullen.

**Portland Cement.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 10 for 1950 bbl. Portland cement, delivery Quantico, Va.

**Projectiles.**—Bureau of Ordnance, Navy Dept., Washington, D. C.—Bids June 24 for 4000 14-in. targets, 8000 8-in. targets, 4500 6-in. targets, 20,200 5-in. a. a. common, 6300 5-in. illuminating and 200 8-in. drill projectiles.

**Pump.**—U. S. Engr. Office, Huntington, W. Va.—Bids June 11 for electric driven gasoline pump at Marietta repair station.

**Pumps.**—Purchase Section, Bureau of Standards, H. N. Eaton, 4 West Bldg., Washington, D. C.—Bids June 12 for 2 vertical shaft submerged centrifugal pumps, 30 and 36-in. discharge, and for 4 horizontal centrifugal pumps ranging from 10 to 20-in. discharge.

**Refrigerating Equipment.**—Comms., District of Columbia, Washington, D. C.—Bids June 9 for furnishing and installing refrigeration equipment, highway department shops.

**Refrigerating Unit.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 10 for mechanical refrigerating unit at marine barracks, South Charleston, W. Va.

**Refrigerators.**—Quartermaster Supply Office, U. S. Army, Washington, D. C.—Bids June 12 for 36 mechanical refrigerators for Fort Monroe, Va.

**Road.**—Alabama. See Construction News—Roads, Streets and Paving.

**Roads.**—State of West Virginia—Bids for 5 roads. See Construction News—Roads, Streets and Paving.

**Road.**—Virginia. See Construction News—Roads, Streets and Paving.

**Road.**—Yorktown, Va. See Construction News—Roads, Streets and Paving.

**Roads.**—State of Maryland—Bids for 5 roads. See Construction News—Roads, Streets and Paving.

**Road.**—Corsicana, Tex. See Construction News—Roads, Streets and Paving.

**Road.**—St. Louis, Mo. See Construction News—Roads, Streets and Paving.

**School Area Improvements.**—Bd. of Awards, Office of City Register, City Hall, Baltimore, Md.—Bids June 10 for improving area of Highlandtown School; H. J. Leimbach, Supvg. Engr., Public Improvement Comsn.

**Sewers.**—F. L. Cloud, City Manager, Kingsport, Tenn.—Bids June 9 for 750 cu. yds. excavation; 20,850 sq. yds. paving; 4420 sq. yds. sidewalk; 24 catch basins in place; 4 manholes in place; 2500 lin. ft. 8-in. sanitary sewer; 850 lin. ft. 6-in. sanitary sewer laterals.

**Sidewalks, Curbs, etc.**—Galveston, Tex. See Construction News—Roads, Streets and Paving.

**Slicing Machine.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 8 for slicing machine, delivery Boston, Mass.

**Steel and Wire.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 10 for 400 steel bars and 3600 sq. yd. woven wire, delivery Quantico, Va.

**Suction Hose.**—U. S. Engr. Office, Huntington, W. Va.—Bids June 11 for suction hose for Ohio River repair crew.

**Truck Bodies.**—Purchasing and Contracting Officer, Holabird Q. M. Depot, Baltimore, Md.—Bids June 9 for 20 dump and hoist bodies, complete, for Mack A. C. 156-in. wheel base dump chassis.

**Structural Steel.**—Panama Canal, Office of Gen. Pur. Officer, Washington, D. C.—Bids June 8 for struc. steel for storehouse, Sch. 2659.

**Tools.**—Office of Chief of Engrs., U. S. Army, Washington, D. C.—Bids June 9 for 2 rail benders, 50 hand-operated post drills, 56 sets twist drills, 24 tamping picks.

**Tubo-Generator.**—See Electric Plant Equipment.

**Upholstery Supplies.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 10 for upholstery supplies, delivery Quantico, Va.

**Upholstery Supplies.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 8 for upholstery supplies, Quantico, Va.

**Uniforms.**—City Register, Baltimore, Md.—Bids June 10 for furnishing park police uniforms; specifications at Park Office, Druid Hill Park.

**Vacuum Tubes.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 8 for vacuum tubes, delivery Washington, D. C.

**Water Works Improvements.**—City of Paris, Ky., Boone Baldwin, Managing Agent, First Natl. Bank Bldg.—Bids June 15 for new conc. dam; materials and equipment for water distribution system, including piping, fittings, valves, hydrants, meter boxes, f. o. b. cars, Paris; changes and additions to water distribution system, including laying water mains, services, paving; additional equipment for filtration and pumping plant,

including mixers, pumps, motors, switchboard, f. o. b. cars, Paris; installation of equipment for filtration and pumping plant, including filters, piping, valves, and removal of old boiler, pumps, piping; changes and additions to filtration and pumping plant building, including new basins.

**Wharf.**—U. S. Coast Guard, Washington, D. C.—Bids June 9 for constructing wharf 24x72 ft. and footbridge connected thereto 10x696 ft. abreast of Assateague Beach Coast Guard Station, Va.

**Wire Cloth Screens.**—Marine Corps, Q. M. Dept., Washington, D. C.—Bids June 8 for 36 units wire cloth screens for sash windows and skylights, delivery Quantico, Va.

**Wrenches.**—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids June 23 for wrenches.

**Woodworking Machines and Pneumatic Saw.**—U. S. Engr. Office, Huntington, W. Va.—Bids June 10 for woodworking machine and pneumatic saw, for U. S. repair station.

## INDUSTRIAL NEWS

### Chicago Pneumatic Appointment

H. A. Jackson, president of the Chicago Pneumatic Tool Company, New York, announces the election as executive vice-president of W. L. Lewis, formerly assistant comptroller of the Bethlehem Steel Corporation and for the past year vice-president in charge of finance of the Chicago Pneumatic Tool Company.

### Larger Quarters for Boiler Engineering

The Boiler Engineering Co., builders of the BECO-Turner baffle wall for water tube boilers have moved into more spacious quarters in the new National Newark & Essex Bank Building at 744 Broad St., in Newark, N. J. In 1930 the company became affiliated with The Plibrico Co. of Chicago. BECO-Turner baffle walls are now sold by all offices of the Plibrico company.

### Sales Company for Louis Allis Motors

The Louis Allis Co., Milwaukee, Wis., manufacturers of direct and alternating current motors, announce the organization of the Dodd Industrial Supply Co., to handle Louis Allis motors in California. Dodd Mauldin will be in charge of the company's Los Angeles office at 810 Santa Fe avenue, and R. D. McCrea in charge of the San Francisco office at 648 Howard street.

### Steel Founders Cancel Meeting

The mid-summer convention of the Steel Founders' Society of America, scheduled for French Lick, Ind., June 17-19, has been canceled and it is understood that a regular meeting of the Society will be held either the latter part of June at some central point, or a series of local meetings will be arranged. Granville P. Rogers is managing director of the Society, with offices at 932 Graybar Building, New York.

### Cotton Warehouse Sprinkler

A new sprinkler system is being installed in the cotton warehouse of the South Eastern Compress Co., at Attalla, Ala., by the Southern Automatic Sprinkler Co., Inc., Birmingham. The warehouse is 500 by 115 feet, with a capacity of 15,000 bales. E. J. Oakleaf, engineer of the sprinkler company, is using Star sprinkler head devices and hose connections are being made at 150-foot intervals. T. E. Fugate is manager of the plant.

### Illumination Conference

Illuminating engineers and others will be offered an interesting program at the Third Annual Illumination Conference to be held at the Westinghouse Lighting Institute, East Pittsburgh, Pa., June 15-17, it is announced.

### Cutler-Hammer Atlanta Office

Cutler-Hammer, Inc., Milwaukee, manufacturers of electric control apparatus, announce that their Atlanta, Ga., office is now located at 133 Cone street, N. W. The new quarters include a warehouse where a stock of C-H motor control, wiring device and safety switch items are carried for immediate delivery. A. C. Gibson is manager of the Atlanta district for the company.

### Dorr-Oliver Corporation

John Van Nostrand Dorr and Edwin Letts Oliver announce a union of the business and assets of the Dorr Company, New York, and the Oliver United Filters, Inc., San Francisco, in the organization of the Dorr-Oliver Corporation, under their joint management. The new corporation will function through two wholly-owned operating units, a new Dorr Company, Inc., and a new Oliver United Filters, Inc. Mr. Dorr and Mr. Oliver will head their respective companies and will continue on behalf of the Dorr-Oliver Corporation the lines of business they have initiated and developed, the former in the fields of agitation, classification and sedimentation through its equipment, built up around the inventions of Mr. Dorr, and the latter in the field of filtration through the inventions of Edwin L. Oliver and E. J. Sweetland.

### Auction Sale Cold Storage Plant

The Patrick Henry cold storage plant three miles west of Martinsville, Va., will be offered at public auction on the premises June 20. The plant is equipped with a 20-ton ice plant, electrically driven with steam auxiliary; has a storage capacity of 60,000 barrels of apples and railway sidings from two railroads. Buildings and equipment are modern. E. J. Davis, J. R. Walker and H. L. Byrd, all of Martinsville, are a committee handling the sale and will supply information.

(Continued on page 62)



# AMERICAN BRIDGE COMPANY

Subsidiary of United States Steel Corporation

## STEEL STRUCTURES BRIDGES & BUILDINGS

GENERAL OFFICES: 71 BROADWAY, NEW YORK, N. Y.  
CONTRACTING OFFICES IN PRINCIPAL CITIES

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The largest job galvanizing plant in the United States  
GALVANIZED PRODUCTS FURNISHED  
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HAS UNSURPASSED FACILITIES FOR HEAVY  
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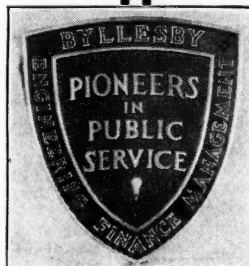
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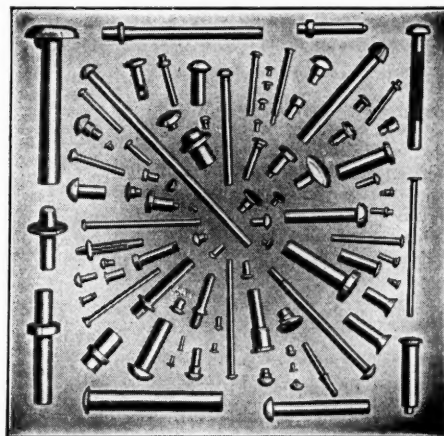
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## BRONZE TABLETS



Architectural  
Bronze  
for Banks,  
Buildings and  
Mausoleums

J. S. HEATH CO., Waukegan, Ill.



## MACHINE SCREWS

Hexagon and Square Iron and Brass Nuts.

Interchangeable Bolts and Nuts (Promco Brand) Special Screws and quality Rivets to order.

Submit samples and advise as to quantity.  
Catalog for the asking.

**THE PROGRESSIVE MANUFACTURING CO.**  
TORRINGTON, CONN.

(Continued from page 60)

**\$51,000 Ornamental Contract**

The Michaels Art Bronze Company, Covington, Ky., has been awarded the ornamental contract at approximately \$51,000 for the Jefferson County courthouse at Beaumont, Tex., under construction at a cost of about \$1,000,000. Hyblum, a white metal with a composition said to be 97 per cent pure aluminum, will be used, it is said. The company recently completed ornamental bronze work on the new \$3,000,000 Jefferson County courthouse and jail at Birmingham, Ala., and is now crafting bronze for the Roebling warehouse in Florida, while Lawrence Michaels, vice-president, is directing installation of ornamental work on the new \$3,000,000 First National Bank Building in Oklahoma City, on which Alcoa aluminum is being used.

## Trade Literature

**International Trucks.**—The International Harvester Company of America, Inc., Chicago, has issued three booklets: "Ambassadors of Business," "International Trucks for Bakers" and "International Trucks for Laundries and Dry Cleaners." The publications are illustrated and point out the advantages offered by International trucks for various types of service.

**V-Belts.**—The L. H. Gilmer Co., Philadelphia, Pa., has issued a new V-belt catalog comprising two sections, one of which is devoted to theoretical and practical illustrations of V-belts and their operation in multiple drives; the second or engineering section introduces new, simple and original formulae for V-belt calculations, detailed tables of drives, and a chart to determine center distances, belt lengths, and other data.

**Potentiometer Pyrometers.**—Catalog No. 1101, featuring a new line of potentiometer pyrometers recently introduced by the Brown Instrument Company, Philadelphia, is being distributed by the company. The publication contains an introduction outlining the entire field of the potentiometer principle as applied to pyrometry and showing how this principle is incorporated in the new Brown instrument.

**Evaporation Equipment.**—The Swenson Evaporator Company, Harvey, Ill., has issued a new catalog, "Swenson Evaporation," illustrating and describing various units of evaporation equipment. In addition to evaporators, the Swenson company, which is a subsidiary of the Whiting Corporation, manufactures continuous crystalizers, soda and sulphate pulp mill machinery, continuous causticizing and pulp washing systems and beet sugar machinery.

**Clogless Pumps.**—The DeLaval Steam Turbine Company, Trenton, N. J., is distributing a catalog devoted to pumps handling liquids carrying solids in suspension. The pumps are characterized by split casings, giving quick access to the interior and are built with either enclosed or open impeller, overhung on a shaft resting in two ball bearings spaced well apart. One of these bearings is of the thrust type to take all unbalanced thrust, including the weight of the impeller and shaft when the pump is installed vertically.

## "Present Situation, Revised"

Clark Tractor Company

Battle Creek, Mich.

Editor *Manufacturers Record*:

I have been a reader of the *MANUFACTURERS RECORD* for a long time and have enjoyed it very much; however, I cannot help taking exception to your article, "The Present Situation," in which you advocate reducing wages as a curative for the present business depression, especially at this time, when large employers of labor are doing everything in their power to maintain wages.

At a meeting of our employees, a short time ago, our president stated that he hoped the time would soon arrive when he could pay his employees 10 hours wages for eight hours work and pay them six days wages for five days work. Does this look like a desire to reduce wages? All big business men realize that the farmer and wage earner must have money to spend in order to have business, and it only follows that the more they have to spend, the better will business be.

You ask: "When will buying start?" and then state that industry is still struggling through one of the longest periods of acute depression on record. Do you expect buying to start by reducing wages? Is it logical to suppose that, if people are not buying now, they will start buying because their wages have been reduced? You state on the following page, in another article, that corporations generally were in a relatively more liquid position, with larger cash resources and lower current liabilities, at the end of 1930 than at the end of 1921. Please note that this was accomplished during a period of constantly increasing wages.

You state that stimulation of buying will only come about through a pressing need for goods to replace those that have worn out, or by lower prices, which will tempt purchasers. The American workman requires more than pressing needs, and is entitled to some of the so-called luxuries of life. He should at least be able to take his wife to a "talkie" occasionally or see Babe Ruth knock a home run, make payments on a home, a radio, a car, as well as to provide for that "rainy day." The wage earners are the buyers and we are all dependent on them. When they stop buying for any reason at all, all business suffers. When they get higher wages, they buy more and all business gains.

You state that conditions can only be corrected by a course similar to that which has been necessary in the past, and then contradict yourself in the next paragraph by stating that we have been going through a condition somewhat different from previous depressions. Therefore, different remedies will have to be provided. An increase of 20 per cent in all wages would more than double the purchasing power of the mass of workers for the things not classed as necessities. If only bare necessities were purchased by everyone, at least three-quarters of our manufacturing concerns would have to quit business. We certainly could get along without our radios, our movies, our aeroplanes, our golf courses, etc., which incidentally provide wages for hundreds of thousands of people. We could get along without rugs on our floors, electric lights and hundreds of similar items and, therefore, our wages could be cut 50 per cent and we could still exist.

However, we not only want rugs on our floors, and so on, but we also want an electric icebox, electric stove, one or two cars, a television machine, a fishing lodge up North and a winter camp down South and perhaps an airplane to save time on the trips back and forth. We probably will not all acquire all these things, but we certainly will acquire what we can, and this depends just 100 per cent on our income. These things can only be acquired by giving the workers more income, which in turn enables manufacturers to produce more goods and increase their earnings by paying higher wages. We, in our own shop, have done considerable in the way of cutting costs of production and invariably have found out that, every time we increased a man's pay on a productive job, our costs have been lowered, that a man does a better job when he does not have to worry about his rent, grocery bills, etc.

You state our standard of living is far beyond what it was in 1913 and we were not so bad off then. In 1913, you might have said the same thing about 1893, and during the World's Fair at Chicago you might have said the same thing about the days of '48. Cleopatra probably had a pretty good time, too. The United States is where it is today because we have constantly gone forward and we shall continue to go forward for a long

long time. Our national want list, as well as the want list of the world, is restricted only by the amount of money we may procure to fill our wants. Reducing wages, of necessity, reduces our ability to fulfill our wants.

You are opposed to the price-cutter. We heartily agree with you. We are also opposed to the wage-cutter, who does far more damage than the price-cutter. You then go on in the next paragraph to state that the individual buyer in this country is holding off. He is not in a frame of mind to buy. Do you intend to change his frame of mind by cutting his wages 20 per cent?

You refer to the fact that the building industry is being held up today by the failure of building workers to recognize that a lower rate of pay is in order; however, building today is cheaper than it has been in years, but nobody wants to buy things on a declining market, whether houses or stocks, copper or rubber.

In the quotation from Bache's Review the army of railroad workers are advised to ask for a 20 per cent reduction in wages, to affect 3,000,000 people directly. A decrease of 20 per cent in monthly wages of \$150 is \$30 per month, or \$1 per day. This would mean a reduction of \$3,000,000 per day for the railroad workers, or over \$1,000,000,000 annually, which is spent for products, a good share of which is carried by the railroads. Is it not better to increase their wages 20 per cent, so the railroads will have more goods to haul and we will have to produce more goods, and again show a profit by paying larger wages?

In conclusion, we wish to remind you that business always has made a larger recovery after each preceding recession or depression, and always with increasing wages. We trust this present situation will do the same and that American manufacturing and American standards of living shall set the pace for the rest of the world by forever going forward with greater manufactures, higher living standards and better wages.

M. V. KRITZNER, Buyer.

[We recognize that there are two schools of thought in the questions raised by Mr. Kritzner. The *MANUFACTURERS RECORD* has always stood for the highest possible wages consistent with sound business principles. Not all high wages are profitable for either the employee or the employer. As we pointed out in our issue of April 23, too high wages may be damaging to the employee, as too low wages may be harmful to the employer. The effect of either extreme is to restrict trade and reduce opportunity for employment; the one making it too costly to produce competitive goods and the other curtailing the buying power of wage earners. We glory in the independence of our workers and their right to enjoy all the comforts that others enjoy. Workers want jobs and good wages; investors, practically all of whom are workers too, want dividends, but in both cases they must be earned. Profitless industry cannot continue to exist. For a concern to cut wages to save it from bankruptcy, when the cutting of wages is its only salvation, is a far more humane procedure than to cause its employees to be thrown out of a job entirely.

There are many industries that through economy of production, the introduction of improved methods and by cutting costs at every point to a degree which one writer described as "the irreducible minimum," are unable to cut costs any further. What is to be done about it? The working man in a business affected in this way with declining trade, where every other means to induce buyers to take the product has failed, is in effect a partner in the business to the extent that he should, to a reasonable degree, bear his share of the economies necessary to make a start in regaining what has been lost.

It is the inequality in the present wage scale to which we have reference. The truth is, the wage earner generally has had his income reduced by part-time work and salary reduction. The point we raise is, can those now on reduced income continue to purchase in volume the remaining organized-labor-controlled high-wage commodities and service? The contention is that there are businesses and trades where wages are out of line and where productivity per worker has not increased to bring about a reduction of unit cost of operation. Liquidation of the wage scale in such industries would help to restore the proper balance in the buying power of all classes of wage earners.—Editor *MANUFACTURERS RECORD*.]



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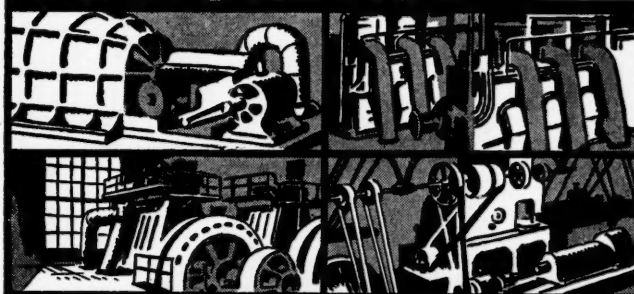
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# FINANCIAL NEWS

## Bond Issues Proposed

Ark., Camden—City, reported, opens bids July 6 for \$26,000 paving bonds.

Ark., Little Rock—State of Arkansas, Roy V. Leonard, Treas., advises \$1,000,000 educational institution construction bonds probably will not be sold until latter part of 1931.

Ark., Little Rock—State Debt Bd., Roy Leonard, State Treas., opens bids June 24 on \$1,500,000 bonds to repay State Highway Dept. for funds advanced to finance loans by State to agricultural credit corporations.

Ga., Ellijay—City voted \$22,000 waterworks bonds.

Ga., McDonough—City, W. J. Greer, Clk., Treas., plans selling \$35,000, \$1000 denom. 5% paving, street improvement bonds.

Ga., Sale City—Sale City Consolidated School Dist., H. A. Jones, Supt. of Schools, voted \$25,000, 5% bonds.

La., Bunkie—City voted \$50,000 street paving bonds.

La., Natchitoches—City voted \$50,000 water and light bonds.

Md., Cumberland—City Council passed ordinance providing for sale of \$50,000 bonds; \$35,000, sewer; \$15,000, refunding sewer.

Md., Centerville—Queen Anne's County Commrs., Thomas E. Walls, Clk., open bids June 16 for \$20,000, 5%, \$1000 denom. school bonds of 1931.

Mississippi—State Bond Comsn. immediately call for bids for \$5,000,000 bonds for redemption of outstanding bank guaranty certificates.

Miss., Tallahatchie—Tallahatchie County probably call election on road bonds.

Mo., Clayton, St. Louis—St. Louis County School Dist. No. 68, reported, sold \$14,000, 5% school bonds to Smith, Moore & Co., 509 Olive St., St. Louis.

Mo., Independence—Jackson County voted \$7,950,000 bonds: \$4,000,000, new courthouse and site in Kansas City; \$200,000, remodeling courthouse in Independence; \$250,000, new detention home and site; \$3,500,000, roads.

Mo., Jefferson City—State Bd. of Fund Comms. sell \$5,000,000, 3½% road bonds July 8.

Mo., Kansas City—City, H. F. McElroy, City Mgr., voted \$31,900,000 10-year improvement bonds: \$4,000,000, city hall and site; \$2,750,000 parks and playgrounds; \$2,000,000 public hospitals; \$500,000, new city market; \$750,000, stadium and outdoor theater; \$375,000, fire department; \$125,000, new district police stations; \$8,300,000, trafficways and boulevards; \$1,000,000, Blue Valley flood protection and improvements; \$3,500,000, water supply improvements; \$4,500,000, municipal auditorium, including site; \$1,500,000, sewers; \$2,000,000, Brush Creek sewer; \$500,000, airport improvements; \$200,000, protection of safety zones, safety islands, underpasses and street signs; \$1,000,000, incinerator.

Mo., St. Joseph—Buchanan County call for bids at once for tax anticipation notes, not to exceed 6%.

Mo., St. Joseph—City defeated \$1,250,000 school bonds.

N. C., Maxton—City, Chas. M. Johnson, Sec., Local Government Comsn., Raleigh, opens bids June 12 for \$25,000 6% funding bonds.

N. C., Statesville—Legislature authorized city to issue sewer bonds.

N. C., Winston-Salem—Local Government Comsn., Raleigh, approved issuance of \$459,000 refunding bonds.

Okla., Stafford—Stafford School Dist. voted school building bonds.

South Carolina—State, J. H. Scarborough, Treas., reported, will sell \$10,000,000 high certificates of indebtedness before June 30.

S. C., Greenville—Comms. of Greater Greenville Sewer Dist. plans setting date in near future for sale of \$745,000 sewer bonds.

Tenn., Blountville—Sullivan County sold \$112,000, 5% coupon school bonds to Taylor, Wilson & Co., Inc., Dixie Terminal Bldg., Cincinnati, Ohio.

Tenn., Chattanooga—City Comsn., E. D. Bass, Mayor, approved legislative bill giving city authority to issue \$200,000 Bainerd sewer bonds.

Tenn., Dresden—Weakly County, reported, sold \$60,000 school notes to American National Co., American Trust Bldg., Nashville.

Tenn., Memphis—City, D. C. Miller, Clk., has \$4,300,000 bonds authorized by Legislature; \$3,000,000, water, no election required; \$1,300,000, improvement election required.

Tenn., Nashville—City, H. F. Srygley, Supt. of Schools, reported, may issue \$650,000 school building bonds.

Tenn., Sneedville—Hancock County, W. W. Chambers, reported, no bids for \$45,000 courthouse building bonds.

Tex., Brownville—City, J. P. Maher, Sec., School Bd., may issue \$80,000 bonds.

Tex., Beaumont—French School Dist. votes June 13 on \$60,000 bonds for addition to Edwards School.

Tex., Dallas—Dallas County probably vote on \$360,000 hospital bonds.

Tex., Donna—Donna Independent School Dist., J. W. Osbourne, Sec., Bd. of Trustees, did not sell \$195,000, bids opened May 14.

Tex., Longview—Gregg County, reported, votes in near future on \$1,000,000 highway improvement bonds.

Tex., Palestine—City voted \$20,000 airport bonds.

Tex., San Angelo—Glenmore School Dist. votes in about 4 to 6 weeks on \$12,000 bonds.

Tex., Tyler—Smith County Comms., reported, called election for June 27 on \$250,000 road bonds.

Tex., Waco—McLennan County, R. B. Strauford, County Judge, will offer \$615,000 road bonds within 120 days.

Va., Accomac C. H.—Accomac County, John E. Nottingham, Judge, votes June 30 on \$142,000 Lee and Pungoteague Districts School bonds.

Va., Lynchburg—Brookville Dist. of Campbell County defeated \$125,000 bonds for water system.

Va., Richmond—City, L. B. Edwards, City Comptroller, reported, sell \$1,000,000, 4½% improved bonds June 8.

Va., Richmond—City, L. B. Edwards, City Comptroller, opens bids June 8 for \$1,000,000, 4½% bonds: \$100,000, street; \$350,000, sewer; \$300,000, James River improvement; \$250,000, curb and gutter.

## Bond Issues Sold

Ga., Columbus—City sold \$35,000 street bonds to Andrews Prather Co., Columbus, at \$37,308.70.

Ky., Prestonsburg—Floyd County sold \$80,000, 6%, \$1000 denom. road and bridge funding bonds to C. W. McNear & Co., Chicago, Ill.

Md., Denton—Caroline County, Walter S. Rutter, County Clk., sold \$75,000, 4½%, \$1000 denom. refunding bonds to Baltimore Co., affiliate of Baltimore Trust Co., Baltimore Trust Bldg., Baltimore, at 104.6122.

Md., Frederick—Frederick County, R. Bruce Murdock, County Clk., sold \$510,000, \$1000 denom., 4% road, school and refunding bonds to First National Securities Corp., First Natl. Bank Bldg., Baltimore, at \$531,965.32.

Md., Rockville—Montgomery County, Berry E. Clark, Clk., sold \$245,000, 4½%, \$1000 denom. bonds to syndicate composed of John P. Baer Co., Charles and Saratoga Sts., Baltimore Co., Robert Garrett & Sons, Garrett Bldg., and Jenkins, Whedbee & Poe, Maryland Life Insurance Bldg., all Baltimore: \$78,000 school bonds at 104.31; \$170,000 road bonds, \$104.312.

Mo., Clayton, St. Louis—St. Louis County School Dist. 68 sold \$14,000, 5% bonds to Smith, Moore & Co., 509 Olive St., St. Louis.

N. C., Durham—Durham County, W. E. Easterling, Asst. Dir., sold \$468,000, 4¾% bonds to Harris Forbes & Co., 56 William St., New York, and Wachovia Bank & Trust Co., Raleigh; \$380,000 school funding bonds, at \$385,141.40; \$53,000 funding bonds, at \$88,821.04.

N. C., Durham—City sold \$343,000 notes: \$277,000 to Guardian Detroit Co., Detroit, Mich.; \$66,000 fiscal year change notes, Fidelity Bank.

S. C., Aiken—Aiken County sold \$100,000, 4¾% debt refunding bonds to First Na-

tional Bank, 25 Pryor St., N. E., Atlanta, Ga.

Tenn., Blountville—Sullivan County, Jos. A. Caldwell, County Judge, sold \$112,000 coupon bonds to Webster & Gibson, Nashville, at 104.90.

Tenn., Memphis—Shelby County sold \$80,000, 4½% refunding bonds to Saunders & Thomas, Memphis, at 102.58.

Tenn., Woodbury—Cannon County, reported, recently sold \$15,000 improvement bonds to Robinson, Webster & Gibson, Nashville.

Tex., Bay City—Matagorda County sold \$400,000, 4¼% road bonds to Security Trust Co., 801 Congress St., Austin, at 100.65.

Tex., Eagle Pass—Maverick County Water Control and Improvement Dist. No. 1, reported, sold \$4,000,000, 6% improvement bonds to Cray, McFawn & Co., Detroit, Mich.

Tex., Gainesville—First State Bank, Gainesville, purchased \$55,000 Gainesville School Dist. bonds.

Tex., Sonora—Sutton County, reported, sold \$175,000, 5½% road bonds to Security Trust Co., 801 Congress St., Austin, as 5½s, at 100.50.

Tex., Vega—City sold \$25,000 coupon waterworks bonds to Asplund Construction Co., Box 1614, Amarillo, Tex., as 6s, at par.

## New Financial Corporations

Ark., Little Rock—First National Bank, H. T. Terry, applied to Treasury Dept., Washington, for charter.

Fla., Tampa—Gulf Finance Co., chartered; Dr. F. W. Porter, 106 W. Ross St.

Ga., Macon—City Bank & Trust Co., capital \$110,000, perfected organization; T. Rad Turner, 300 Hardeman Ave., Pres.

Tenn., Kingsport—Freels Investment Co., Inc., capital \$25,000, chartered; J. C. Freels, V. B. Freels.

N. C., Elizabeth City—Savings Bank & Trust Co., P. H. Williams, Pres., plans reopening; members of reorganization committee include W. P. Duff, Chmn.; M. L. Clark, C. E. Thompson and associates.

## Southern Summer Travel Rates

Practical encouragement for summer travel to and in the South is provided this year by the railroads serving this area, in the form of attractive rates and liberal time provision. The Southern Railway offers many travel bargains. Varieties of route and cost include Sunday round-trip tickets, in coaches, up to 100 miles, at one cent a mile; all-season summer excursion tickets, from May 15 to September 15, good till October 31, and a special rate once a month, good for 30 days. Reduced rates from the South to all points in the United States and Canada also are featured, and rail and steamer routes can be arranged. The Southern, the Seaboard Air Line and the Atlantic Coast Line are among the roads participating.

The Alabama Drydocks & Shipbuilding Company, Mobile, has launched the first of 10 barges it is building for the Federal Barge Line, at a cost of \$600,000, for Mississippi-Warrior river service.



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## \$16,000,000 Railroad Order

Pennsylvania Buys Electrical Apparatus for 150 Locomotives for Use on Line Between New York and Washington

The Pennsylvania Railroad has placed an order with the Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., and the General Electric Company, Schenectady, N. Y., for electrical apparatus to be installed in 150 electric passenger and freight locomotives, which will constitute a part of the equipment to be used when the electrification of the Pennsylvania lines has been completed between New York, Philadelphia, Baltimore and Washington. The cost of this apparatus will be approximately \$16,000,000. The Pennsylvania Railroad's program also calls for the purchase later of 80 additional electric locomotives of other types. The American Brown-Boveri Electrical Corporation, Camden, N. J., is in consultation with the railroad relative to the design of some of the locomotives and may supply a part of the electrical equipment.

Of the 150 locomotives involved in the present announcement, 90 will be used for fast through passenger trains and 60 for high speed freight service. The weight of the former will be 375,000 pounds each and that of the latter 330,000 pounds. Practically all electrical equipment has been designed for interchangeability between the freight and passenger locomotives, in order to reduce to a minimum electrical repair stocks to be carried. Two types of passenger locomotives have been developed—one with two pairs of drivers and two pairs of motors, developing 2000 horsepower at a speed of 56 miles per hour, and the other with three pairs of drivers and three pairs of motors, developing 3000 horsepower at the same speed. Each has a maximum safe speed of 90 miles per hour. The freight locomotives are of a single type—equipped with four pairs of driving wheels, and one motor to each pair, developing 2000 horsepower at 28 miles per hour.

The passenger engines have been so designed that the two types may be used separately or in any combination desired, so as to produce 2000, 3000, 4000, 5000 or 6000 horsepower. Freight engines used one, two or three at a time will develop, respectively, 2000, 4000 and 6000 horsepower. Passenger locomotives will be equipped with boilers to produce steam for heating cars. Forty-three of the locomotives are to be delivered this year and the remainder before the middle of 1933, when it is thought electrification work between New York and Washington shall have been completed

in connection with station, track and tunnel improvements at Newark, Philadelphia and Baltimore.

The work of electrifying was begun in 1928 between Philadelphia and Wilmington. It has been completed between Trenton and Wilmington; is about 15 per cent complete between New Brunswick and the Manhattan Transfer, and about 50 per cent complete between Manhattan Transfer and Sunnyside Yard, Long Island. Surveying is now under way and engineering studies advanced for electrification between Wilmington and Washington and between Trenton and New Brunswick. Remaining work upon wires, poles, substations and other apparatus to equip the roadway will require 68,000 tons of steel and 39,000,000 pounds of copper and bronze. In addition the 150 locomotives under order will use 4,638,000 pounds of copper and 2250 tons of steel. The Pennsylvania System now has in use and under construction 96 electric locomotives, which will be ultimately increased to 326.

### Increased Wheat Production in Four Southwest States

An exceptionally heavy wheat movement is looked for by the St. Louis-San Francisco Railway Co. in its territory. The Frisco expects an increase of 48,000,000 bushels over 1930 in the wheat-producing states of Kansas, Oklahoma, Texas and Missouri. Estimates for these four states are: Kansas 175,000,000 bushels; Oklahoma 50,000,000 bushels; Texas 40,000,000 bushels and Missouri 23,000,000 bushels.

The Frisco expects to move approximately 18,500 cars of wheat on its own lines during 1931; these figures do not include grain received from connections.

### Consider the Farmer

Timely reminder that the factor of "wages" is applicable to agriculture and other industries, as well as to so-called "labor," is presented in an editorial in the Charleston News and Courier, as follows:

"In time of depression the maintenance of the wage scale for the non-farm laborers leaves less of the product for the farmers.

"What shall a farmer get out of a bale

of cotton when it sells for \$100 in New York? Let us say that his share, including compensation for his labor and management and for interest on his investment, is \$50.

"When the price of the bale drops to \$50 in New York, what is his share—the wages of the railroad crew, the warehouseman, the stevedores, the clerks in the offices and all wage earners, handling the bale remaining at exactly the same level that they were when the bale sold for \$100?

"Yet with what this farmer has left he must buy his hoes, his plows, his clothes, his nails, his bedding, at approximately the old prices—for are not Mr. Coolidge and Mr. Hoover seeing to it that the men who work in the factories turning out these things receive the old wage? Are not the men in the crowded industrial centers receiving a wage that will make it possible for them to pay rentals based on the high prices of land due to crowded population?

"No one hears talk of a 'farmer's strike.' They cannot strike—against themselves. They are their own employers, their own laborers.

"If they could strike, if they did strike, millions in the cities, in the factory towns, would starve, they would in a night riot and demolish their own cities.

"What if the farmers who produce the milk for a million children in New York should go on strike? Have they less right in morals and justice to go on strike than other men have?

"When the crisis approaches, when the captains in the industrial centers tremble at the imminence of civil commotion, who are the last reliance for the security of order, of property, of life?

"The scattered farmers, in their little homes, on their small acreages, independent men, employers of themselves, blended laborers and capitalists, men who can't strike, who never strike, who are the last to desert what we call our order, they are the last reliance of the 'monied men.'

"The wage scale is maintained, everybody wants it maintained. We want it maintained.

"The farmers hold the bag."

### Strength In Associations

Trade associations, through closer coordination of business units, have been the most powerful agency preventing a price demoralization and possible industrial ruin, Charles F. Abbott, executive director of the American Institute of Steel Construction, said to the National Lime Association, at White Sulphur Springs, W. Va., on June 3. Also, he cited that a new level of commodity prices has been reached without panic or extreme distress which has marked some past business recessions.

Mr. Abbott added that education through trade associations is the greatest factor in times like the present for the spread of an understanding of commercial events, and a great weapon against price-cutting to which industries sometimes resort.



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Rank and file employees, in these campaigns, sold where regular security salesmen would have failed, because they sold to customers and friends—people off the security salesman's beaten path.

We shall be pleased to tell you whether or not we think your employees can successfully apply Customer Ownership to your financing problems.

*Customer Ownership Division***P. H. Whiting & Co., Inc.**

72 Wall Street

New York

**Bankers, Manufacturers, Merchants,  
of the South**

When in Baltimore, drop in and see us.

Maybe we can serve you in some way. The

acquaintance may prove mutually helpful.

**BALTIMORE COMMERCIAL BANK**

GWYNN CROWTHER, President

26 South Street, Baltimore, Md.

Capital and Surplus \$1,350,000

Member Federal Reserve System

## Manufacturers

You are invited to utilize our industrial and engineering services on factory establishment or relocation. Complete reports on industrial advantages in areas served by our properties . . . All negotiations confidential and gratis. Address Industrial Development Department.

**Associated Gas and Electric System**

61 Broadway



New York City

## AGAIN, WHY TAKE A CHANCE?

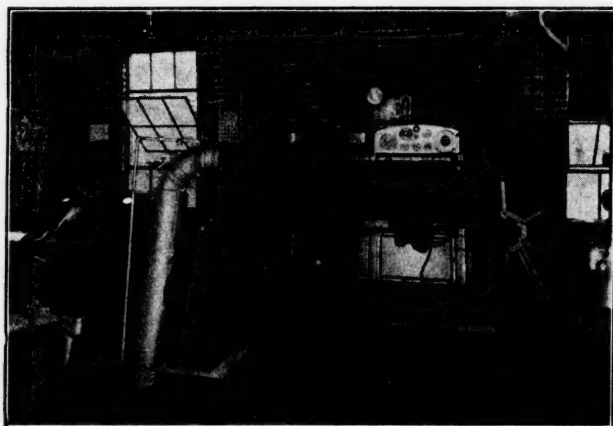
*If your main power fails, have a STERLING on duty*

Sterling  
High  
Duty



Internal  
Combustion  
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12 to 565 B.H.P.  
Gas or Gasoline



*At the Bessie Mine of the Sloss-Sheffield Co., at Birmingham, Ala., a Sterling Viking 11-6 Cylinder 425 H.P. engine connected to a Westinghouse generator serves as a standby when electric power fails.*

The cost of the engine, spread over the 20 and more years it serves you is so little! Why not have all the advantages a Sterling offers?

### STERLING ENGINE COMPANY

*Home Office and Plant:*

1270 Niagara Street, Dept. C-7  
BUFFALO, N. Y.

900 Chrysler Building  
NEW YORK, N. Y.

#### TARPAULINS, TENTS

*Roll Duck and Burlap*

Contractors and manufacturers should write our nearest plant for prices before buying anything in this line.

**Fulton Bag & Cotton Mills**

St. Louis      Atlanta      Brooklyn  
Kansas City, Mo.      Minneapolis      New Orleans      Dallas

#### Snead Architectural Iron Works

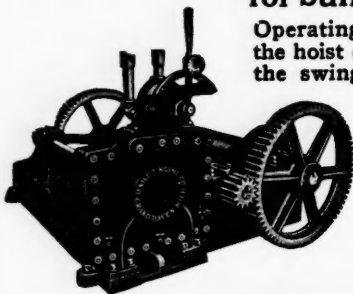
**STRUCTURAL STEEL  
ORNAMENTAL IRON**

LOUISVILLE, KY.

#### DAKE SWINGING ENGINES

for bull wheel derricks

Operating independently of the hoist engine, they cut down the swinging time and speed up derrick work.



The engine has no dead centers and starts instantly from any position permitting quick accurate spotting of the load.

*Also made for Electric Drive. Send for catalog.*  
**DAKE ENGINE CO., Grand Haven, Mich.**

#### Manufacturing in the South

is growing at an amazing rate. Over six billion dollars are spent annually for materials, supplies, fuel and power to operate Southern factories. The utilization of its power resources; great hydro-electric sites; fuel supply of coal, lignite, gas and oil is rapidly advancing Southern industry.

**MANUFACTURERS RECORD  
BALTIMORE, MARYLAND**

#### Northern Hard Rock Maple Flooring

Holt Hardwood Co., Oconto, Wis.

MEMBERS OF MAPLE FLOORING MANUFACTURERS ASSOCIATION





# PROPOSALS

BOND ISSUES

BUILDINGS

PAVING

GOOD ROADS



Bids close June 9, 1931.

U. S. Engineer Office, Memphis, Tenn.—Sealed bids, in duplicate, will be received here until 2 P. M., June 9, 1931, and then opened, for constructing and delivering, afloat, at Memphis, Tenn., one 50-foot steel hull, gasoline engine-driven workboat. Information on application.

Bids close June 19, 1931.

U. S. Engineer Office, Mobile, Ala.—Sealed bids, in duplicate, subject to the conditions contained in the specifications, will be received until 11 o'clock A. M., June 19, 1931, and then publicly opened, for furnishing all labor and materials and performing all work of dredging, approximately 1,070,000 cubic yards of material in Mississippi Sound, Bay of Biloxi and Back Bay, at Biloxi, Miss. Further information on application.

Bids close June 20, 1931.

U. S. Engineer Office, Mobile, Ala.—Sealed bids, in duplicate, subject to the conditions contained in the specifications, will be received until 11 o'clock A. M., June 20, 1931, and then publicly opened, for furnishing all labor and materials and performing all work of dredging approximately 5,620,000 cubic yards of material in the Mobile Bay Channel. Further information on application.

Bids close June 24, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., May 27, 1931.—SEALED BIDS in duplicate subject to the conditions contained herein will be publicly opened in this office at 3 p. m., June 24, 1931, for furnishing and installing cafeteria equipment at the U. S. post office, court house and custom house, Richmond, Va. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931, (Public No. 798). Drawings and specifications may be obtained from the custodian at the building or at this office in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close June 19, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., May 22, 1931.—SEALED BIDS in duplicate subject to the conditions contained herein will be publicly opened in this office at 3 p. m., June 19, 1931, for furnishing all labor and materials and performing all work for new heating boiler, etc., at the U. S. post office, Centralia, Ill. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931, (Public No. 798). Drawings and specifications may be obtained from the custodian at the building or at that office in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close June 16, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., May 23, 1931.—SEALED BIDS, in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., June 16, 1931, for furnishing all labor and materials and performing all work for clearing the site, excavation and foundations for the U. S. public health service building, Washington, D. C. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three sets, may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor and provided a deposit of \$15 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

## GENERAL INFORMATION About Proposal Advertising in Manufacturers Record

PUBLICATION DAY: Thursday.  
FORMS CLOSE: 10 A. M. Tuesday.

When too late to send copy by regular mail to reach us by 10 A. M. Tuesday, forward by night letter or air mail when possible

### THE DAILY CONSTRUCTION BULLETIN OF THE MANUFACTURERS RECORD

Published every business day, gives information about the industrial, commercial and financial activities of the South and Southwest.

The Daily Construction Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened or when daily insertions are necessary to meet legal requirements.

The rate is the same for both publications—35 cents a line each insertion.

Bids close June 19, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., May 23, 1931.—SEALED BIDS in duplicate subject to the conditions contained herein will be publicly opened in this office at 3 p. m., June 19, 1931, for furnishing all labor and materials and performing all work for renewal of hot water piping in the U. S. treasury bldg., Washington, D. C. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931, (Public No. 798). Drawings and specifications may be obtained from the custodian at the building or at this office in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close June 18, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., May 28, 1931.—SEALED BIDS in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., June 18, 1931, for furnishing all labor and materials and performing all work for remodeling and enlarging the U. S. post office at State College, Pa. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding one set, may be obtained by any satisfactory general contractor at this office in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close June 29, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., May 29, 1931.—SEALED BIDS, in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., June 29, 1931, for furnishing all labor and materials and performing all work for construction of the U. S. post office at Winthrop, Mass. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931, (Public No. 798). Drawings and specifications, not exceeding 3 sets, may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close June 23, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., May 26, 1931.—SEALED BIDS in duplicate subject to the conditions contained herein will be publicly opened in this office at 3 p. m., June 23, 1931, for furnishing all labor and materials and performing all work for new heating boiler, plumbing and heating changes in the U. S. post office, Brunswick, Ga. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931, (Public No. 798). Drawings and specifications may be obtained from the custodian at the building or at this office in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close June 12, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., May 22, 1931.—SEALED BIDS in duplicate subject to the conditions contained herein will be publicly opened in this office at 3 p. m., June 12, 1931, for furnishing all labor and materials and performing all work required for installing one submarine cable for electric service at the U. S. quarantine station, Reedy Island, Del. The successful bidder will be required to furnish a performance bond of 50% of the contract price. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931, (Public No. 798). Drawings and specifications may be obtained from the custodian at the building or at this office in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close June 19, 1931.

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., May 28, 1931.—SEALED BIDS, in duplicate subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., June 19, 1931, for furnishing all labor and materials and performing all work for the excavations and foundations of the U. S. post office, court house, custom house, etc., at Miami, Fla. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three sets, may be obtained at this office in the discretion of the supervising architect by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

Bids close June 18, 1931.

U. S. Department of Agriculture, Bureau of Public Roads, Yorktown, Virginia, May 29, 1931. SEALED BIDS will be received at the office of the National Park Service, Yorktown, Virginia, until 10 o'clock A. M., on June 18, 1931, for 7.9 miles of highway grading and structures; involving major items of approximately 285,000 cubic yards of Excavation, 2,600 cubic yards of Concrete Masonry, 400 cubic yards of Brick Masonry, 186,000 pounds of Steel Reinforcement, and 4,000 linear feet of Culvert Pipe. Where plans and specifications are requested, a deposit of \$25.00 will be required to insure their return within 15 days after opening of bids. Checks should be made payable to A. Zappone, Disbursing Clerk, Department of Agriculture. Plans, specifications and proposals may be obtained at the office of the Bureau of Public Roads, Willard Building, Washington, D. C., or at the office of the National Park Service, Yorktown, Virginia, THOS. H. MACDONALD, Chief of Bureau.

Bids close June 17, 1931.

**TREASURY DEPARTMENT.** Office of the Supervising Architect, Washington, D. C., May 20, 1931.—**SEALED BIDS** in duplicate subject to the conditions contained herein will be publicly opened in this office at 3 p. m., June 17, 1931, for furnishing all labor and materials and performing all work for two new cast iron heating boilers at the U. S. post office, court house and custom house, New Berne, N. C. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931, (Public No. 798). Specifications may be obtained from the custodian at the building or at this office in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close June 12, 1931.

**TREASURY DEPARTMENT.** Office of the Supervising Architect, Washington, D. C., May 22, 1931.—**SEALED BIDS** in duplicate subject to the conditions contained herein will be publicly opened in this office at 3 p. m., June 12, 1931, for furnishing all labor and materials and performing all work required for installing interior conduit and wiring, and lighting fixtures at the U. S. quarantine station, Reedy Island, Del. The successful bidder will be required to furnish a performance bond of 50% of the contract price. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931, (Public No. 798). Drawings and specifications may be obtained from the custodian at the building or at this office in the discretion of the supervising architect. JAS. A. WETMORE, Acting Supervising Architect.

Bids close June 23, 1931.

**SEALED BIDS**, in triplicate, subject to the conditions contained herein, will be received by the U. S. Veterans' Bureau, Room 764, Arlington Building, Washington, D. C., until 2:30 P. M., June 23, 1931, and then publicly opened for furnishing all labor and materials and performing all work required for constructing and finishing complete at U. S. VETERANS' HOSPITAL HUNTINGTON, WEST VIRGINIA, BUILDINGS AND UTILITIES, including roads, walks, grading and drainage. This work will include excavating, reinforced concrete construction, hollow tile, brick work, cut stone, cast stone, architectural terra cotta, marble work, floor and wall tile, rubber tile, compressed asphalt tile and linoleum floors, terrazzo, iron work, flag pole, steel sash, steel stairs and slate or soap stone and metal treads, steel shelving, cabinets and partitions, slate, metal and built-up roofing, lightning conductors, roof ventilators, metal lathing, plastering, sound deadening, carpentry, platform scales, metal weatherstrips, insect screens, window shades, painting, glazing, hardware, plumbing, refrigerating and ice making plant, boiler plant, radial brick chimney, heating and ventilating, electrical work, electric elevators, nurses' call system, fire alarm system, and outside sewer, water, gas, steam and electric distribution systems. **SEPARATE BIDS** will be received for (a) General Construction including Radial Brick Chimney; (b) Plumbing, Heating, Electrical Work and outside distribution systems; (c) Electric Elevators; (d) Steel Water Tank and Tower; (e) Refrigerating and Ice Making Plant; all as set forth on bid form. Bids will be considered only from individuals, firms or corporations possessing satisfactory financial and technical ability, equipment and organization to insure speedy completion of the contract and in making awards, the records of bidders for expedition and satisfactory performance on contracts of similar character and magnitude will be carefully considered. At the discretion of the Director, drawings and specifications may be obtained upon application to the Construction Division, Room 764, Arlington Building, Washington, D. C. While no deposit will be necessary, return of the drawings and specifications within ten days after date of opening bids will be required. In case no bid is to be submitted the return of plans and specifications, as soon as this fact has been determined, and before the date for opening bids, is requested. Compliance with the requirement and with the request indicated will be considered in connection with future applications for drawings and specifications. JOHN D. CUTTER, Acting Director.

Bids close June 30, 1931.

### Concrete Bridges

Baton Rouge, La.

**Sealed Proposals** for the construction of the following projects will be received by the Louisiana Highway Commission, Room No. 614, Louisiana National Bank Building, Baton Rouge, Louisiana, until 9:45 A. M. on Tuesday, June 30, 1931. Proposals will not be received after this hour. At 10:00 o'clock A. M. on the same day and date, they will be publicly opened and read in the Chamber of the Senate in the State Capitol Building.

**(BOND) PROJECT NO. 4905 — RED RIVER BRIDGE AT ALEXANDRIA** on the Alexandria-Shreveport Highway — Located in Rapides Parish—Route No. 1. Description: 1—500 Simple Span Through Truss. 2—160 ft. Deck Trusses, 4—100 ft. Deck Trusses all on concrete piers, 1,892 lin. ft. Reinforced Concrete Trestle, roadway width 24 ft. Approximate quantities of the principal items involved are 2,550,000 lbs. Structural Steel, 1,222,000 lbs. Reinforcing Steel, 5,340 cu. yds. Class "A" Concrete, 34,030 cu. yds. Class "AA" Concrete, 5,800 cu. yds. Structural Excavation, 14,800 lin. ft. Precast Concrete Piles. Charges for Plans, \$20.00.

**(BOND) PROJECT NO. 4604 — OUACHITA RIVER BRIDGE AT MONROE** on the Monroe-Shreveport Highway—Located in Ouachita Parish—Route No. 4 Description: 1 double leaf Strauss Bascule Span 160 ft. center to center trunnions, 6—100 ft. Deck Truss Spans all on reinforced concrete piers; also concrete deck girder approach spans, roadway width 40 ft., and 2—6 ft. Sidewalks. Approximate quantities of the principal items involved are 2,400,000 lbs. Structural Steel, 675,000 lbs. Reinforcing Steel, 9,150 cu. yds. Class "A" Concrete, 1,842 cu. yds. Class "AA" Concrete, 3,660 cu. yds. Class "A" Concrete in Seal Course, 52,800 cu. yds. Untreated Timber Piles, 64,000 lin. ft. Precast Concrete Piles. Charges for Plans, \$20.00.

**(BOND) PROJECT NO. 1801 — RED RIVER BRIDGE AT SHREVEPORT** on the Monroe-Shreveport Highway—Located in Bossier and Caddo Parishes—Route No. 4. Description: 1—520 ft. Cantilever Span with 2—182 ft. anchor arms, 6—100 ft. Deck Trusses all on reinforced concrete piers, 1,384 lin. ft. Reinforced Concrete Trestle, roadway width 40 ft., and 2—6 ft. Sidewalks. Approximate quantities of the principal items involved are 6,250,000 lbs. Structural Steel, 1,850,000 lbs. Reinforcing Steel, 2,412 cu. yds. Class "A" Concrete in approaches, 7,082 cu. yds. Class "A" Concrete in piers, 5,360 cu. yds. Class "AA" Concrete, 9,730 cu. yds. Pneumatic Excavation, 2,000 cu. yds. Structural Excavation, 27,700 lin. ft. Precast Concrete Piles. Charges for Plans, \$20.00.

**(BOND) PROJECT NO. 1801-B—EAST APPROACH TO SHREVEPORT BRIDGE** on the Shreveport-Monroe Highway — Located in Bossier Parish—Route No. 4—Length 1.38 miles—Width 20 ft.—Type, Portland Cement Pavement and other work in connection therewith, including an overpass over the St. Louis Southwestern Railroad. Charges for Plans, \$25.00.

**(BOND) PROJECT NO. 3900 — MISSOURI PACIFIC OVERPASS** near Tullos on the Trout-Tullos Highway—Located in LaSalle Parish—Route No. 474. Description: 5—40 ft. Reinforced Concrete Deck Girder Spans on concrete bents and piles, 24 ft. roadway. Approximate quantities of the principal items involved are 260 cu. yds. Class "AA" Concrete, 133 cu. yds. Class "A" Concrete, 85,000 lbs. Reinforcing Steel, 8,100 lbs. Structural Steel, 1,530 lin. ft. Precast Concrete Piles, 145 cu. yds. Structural Excavation. Charges for Plans, \$20.00.

**(BOND) PROJECT NO. 4411—CANE RIVER BRIDGE AT NATCHITOCHES** on the Natchitoches-Alexandria Highway — Located in Natchitoches Parish—Route No. 20. Description: 11—40 ft. Reinforced Concrete Deck Girder Spans on concrete piles —24 ft. roadway and 2 Sidewalks. Approximate quantities of the principal items involved are 810 cu. yds. Class "AA" Concrete, 73 cu. yds. Class "A" Concrete, 225,000 lbs. Reinforcing Steel, 9,000 lbs. Structural Steel, 3,780 lin. ft. Concrete Piles. Charges for Plans, \$20.00.

Full information and proposal forms are available at the offices of the Highway Commission at Baton Rouge. Plans and specifications may be inspected there or will be furnished upon payment of the amounts specified above (not to be refunded).

O. K. ALLEN, Chairman,  
Louisiana Highway Commission.  
HARRY B. HENDERLITE,  
State Highway Engineer.

Bids close June 9, 1931.

### Maryland Highway Work

DEPARTMENT OF PUBLIC WORKS  
STATE OF MARYLAND  
STATE ROADS COMMISSION  
NOTICE TO CONTRACTORS

Baltimore, Md.

**SEALED PROPOSALS** for building five sections of State Highway as follows: Allegany County, Contract No. A-87-64—Federal Air Project No. 236—One section of State Highway along the Cumberland-Oldtown Road, from the end of Contract No. A-26 to Oldtown, a distance of 6.65 miles (Concrete).

Baltimore County, Contract No. B-174-43—One section of State Highway along the approaches to the Middle River Underpass, a distance of 0.83 miles (Concrete). Calvert County, Contract No. C-27-82—One section of State Highway from Bertha to Cove Point, a distance of 2.4 miles (Gravel).

Somerset County, Contract No. S-52-12—One section of State Highway along the Princess Anne-Deal Island Road from the end of Contract S-44 near Chance toward Deal Island, a distance of 1.00 miles (Concrete).

Wicomico County, Contract No. Wi-78-17—One section of State Highway along the east approach to the Vienna Bridge, a distance of 1.2 miles (Crusher Run Slag Oil Treated).

will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Sts., Baltimore, Maryland, until 12 m. on the 9th day of June, 1931, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check, payable to the State Roads Commission of Maryland, as required by Sec. 6, Chapter 539, Acts of 1931, of the amount as set forth in the proposal form.

The successful bidder will be required to give bond, and comply with the Acts of the General Assembly of Maryland, respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 26th day of May, 1931.

C. CLINTON UHL, Chairman.  
L. H. STEUART, Secretary.

Bids close July 7, 1931.

### Electric Light Plant

Ocala, Fla.

**NOTICE** is given that City Council, Ocala, Florida, on July 7th, 1931, at 8 P. M., will consider sealed proposals for furnishing and installing machinery in its Electric Light Plant. The costs thereof to be paid out of savings and/or earnings of plant.

Right is reserved to reject any and all proposals. If interested write  
J. R. MARTIN, City Manager,

Bids close June 17, 1931.

### Storm Drain

Easton, Md.

**Sealed Proposals** will be received and opened by the Mayor and Council of Easton, at their office, Easton, Maryland, at 2:30 P. M., Wednesday, June 17th, 1931, for constructing about one thousand feet (1000 ft.) of terra cotta pipe storm drain, ranging in size from fifteen to twenty inches (15-20") together with manholes, catch basins and connections.

Proposal blanks, Form of Contract, Specifications and Plans may be obtained from the Town Engineer, Room 204, Stewart Building, Easton, Maryland, upon payment of Two Dollars (\$2.00).

A certified check in the amount of Two Hundred and Fifty Dollars (\$250.00) must accompany each proposal.

The Mayor and Council reserve the right to reject any or all bids.

RALPH A. TOWNSEND,  
Town Clerk.

E. G. KASTENHUBER, JR.,  
Town Engineer.



# CLASSIFIED OPPORTUNITIES

## MINERAL AND TIMBER LANDS, WATER POWER, MISCELLANEOUS PROPERTIES

### COAL

#### SOUTHERN WEST VIRGINIA

Smokeless coal, several thousands tons monthly; no middleman; mine direct to consumer, or dealer; good rating and prompt pay necessary. Write P. O. Box No. 368, Beckley, West Va.

### MANGANESE DEPOSIT

MANGANESE—NEAR RAILROAD AND RIVER IN ROCKINGHAM CO., VA.; 300 ACRES HIGH-GRADE ORE. HAS YIELDED 6000 TONS THE ACRE. ADJACENT LAND ALSO YIELDS ORE. FOR DESCRIPTION AND TERMS WRITE A. L. HARNBERGER, MT. AIRY, MD.

### BRICK SHALE

FOR SALE—Heavy beds of finest Building Brick Shale. Analysis by Georgia State Geological Survey of Atlanta, Ga., shows it suitable for the manufacture of high-grade building brick, building tile, drain tile, or tile roofing. Located three miles south of Chattanooga, Tenn., near Central of Ga. Railroad. If interested see T. W. BROWN, care Brown Fence Co., Chattanooga, Tenn.

### CEDAR

#### BEST SEA ISLAND CEDAR

FOR SALE  
EDISTO BEACH, INC.,  
Law Range, Sumter, S. C.

### TIMBER AND TIMBER LANDS

#### COLONIZATION, GRAZING & TIMBER TRACTS

With lower taxes assured, prices on acreage is sure to advance. We have tracts from 4000 to 400,000 acres some well stocked all kinds of game and suitable game preserve, others with merchantable growth worth more than price asked, making Ideal Investments for surplus funds. Now is buying time for Florida. Descriptions gladly furnished.

Gilbert Sales & Securities Co., Inc.,  
Arcade Bldg., Kissimmee, Fla.

### FARM AND TIMBER LANDS

3,500 ACRES of Young Pine and Hard wood timbered Grass land, fine water, and fishing, priced for \$3.00 per acre.

FRANK SITTEL, McAlester, Oklahoma.

2,364 ACRES RICHEST UPLAND, (600 open, good buildings) 5,000,000 Hardwood, 6 miles town.—Gravel Road. Farming — Stock—Timber Proposition. \$9 acre.

BARBOUR REALTY, Vicksburg, Miss.

THE FOLLOWING TRACTS of land in North Florida are offered for less than they are worth for the purpose of liquidation. All well timbered with young long leaf pine.

18,000 acres good land at \$2.00 per acre.  
11,000 acres at \$2.50 per acre.

440 acres at \$3.00 per acre.

F. L. GIBSON,  
Thomasville, Ga.

## FARM, FRUIT AND TRUCK LANDS

### TEXAS

40 ACRES 2 miles East Cotulla County Seat La Salle Co., Texas, garden district, southwest Texas. Suited for all kinds fruit, vegetables and general farming, heavy red mesquite soil, all tillable, subject to irrigation, no improvements. \$50.00 per acre. G. Mulherin, 1620 Ave. E., Galveston, Texas.

### VIRGINIA

1,100 ACRES IN VIRGINIA, one hour by automobile west of Richmond. Gently rolling land, creek through center, much valuable growing wood and timber, 4 room hunting lodge, \$8,000. FRANK H. COX, Ashland, Va.

## Rates, Terms and Conditions

RATES: 30 cents a line each insertion. Minimum space accepted, four lines. In estimating the cost allow six or seven words of ordinary length to line. When the advertisement contains a number of long words proper allowance should be made.

### Rates for Special Contract:

100 lines 28c a line  
300 lines 26c a line  
500 lines or more 25c a line

TERMS: For transient advertising cash with order; check, postoffice or express money order or stamps accepted.

On special contract advertising bills are rendered monthly, covering space used each month, payable within ten days.

CONDITIONS. No patent medicine, oil or mining stock advertisements or questionable or undesirable advertisements will be accepted. The assistance of our readers in excluding undesirable advertisements is requested. No display type used.

## SOUTHERN ESTATES

ESTATE FOR SALE—11 acres on St. Johns River opposite Jacksonville, also 12-room residence in good location, only few blocks from business center of Jacksonville. A. G. Chappell, P. O. Box 392, Jacksonville, Fla.

## BUSINESS OPPORTUNITIES

WANT TO SELL all or half interest in a small retail lumber yard. Well equipped. Good shed, good location. Small amount of cash required, the right man practically no cash. Apply Box 245, Leaksville, N. C.

BIG BARGAIN—For Sale, an up-to-date newspaper and job plant; cost \$8,000, for sale at \$3,500 and terms on part. Good field, good roads, schools, citizens, etc. Worth coming to see. Reasonable rent, waterworks and electric lights and power. For full particulars write. No curious need bother. Address G. B. TERRELL, Neon, Ky.

### PARKERSBURG.

Successful manufacturers are invited to join this city's colony of prosperous, medium sized, diversified industrial plants.

BOARD OF COMMERCE,  
Parkersburg, West Virginia.

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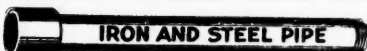
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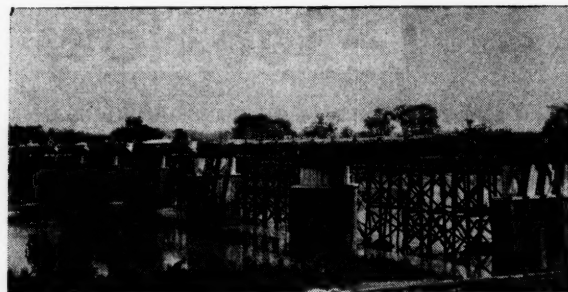
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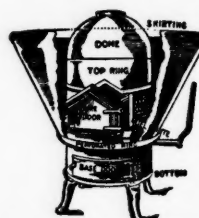
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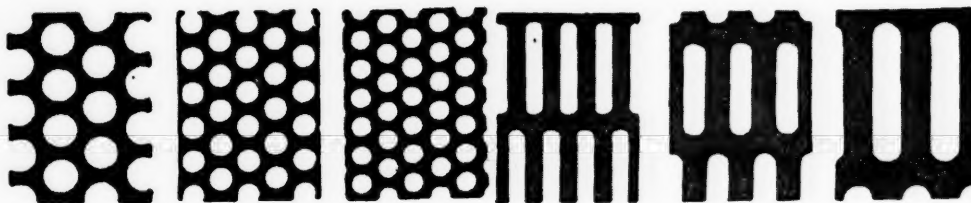
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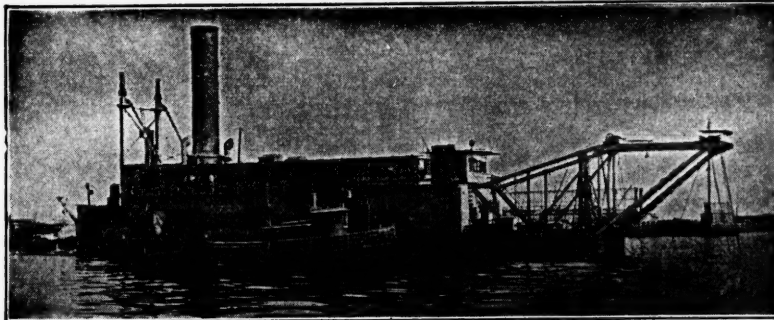
River and Har-  
bor Improvements,  
Deep Waterways  
and Ship Channels.

Correspondence Invited  
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and Corporate and Pri-  
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NEW YORK  
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## DREDGING

### LONGEST EXPERIENCE




We are especially  
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dredging, recla-  
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works in South-  
ern waters.

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HOUSTON  
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**Atlantic, Gulf and Pacific Company**

# FLEXIBLE



HUBER

HUBER 12 POINT PERFORMANCE

RUGGED FAST POWERFUL FLEXIBLE PROFITABLE

SAFE SMOOTH FAITHFUL LASTING ACCURATE PRACTICAL

Huber 7-Ton Motor Roller Owned by the City of Marion, Ohio.

## REGARDLESS OF THE TYPE OF ROAD JOB

THERE is a Huber Motor Roller to fit every highway construction and maintenance job. Abundant power for the hard pulls...a wide range of road speeds...ruggedly constructed to stand all the punishment you will give it. Built from 5 to 14 tons. Write for New Huber Motor Catalog.

**THE HUBER MFG. CO.**  
310 E. Center St., Marion, O



# HUBER MOTOR ROLLERS

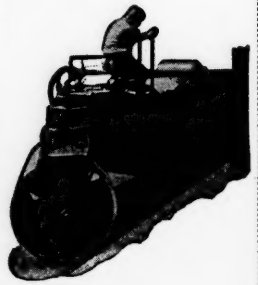
### "No honeycombing — and a smooth even pavement"

Contractors write us that there's no sinking or bridging with an ERIE Roller.

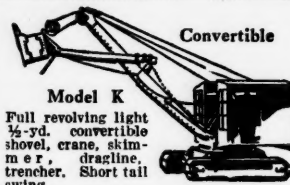
The reason is plain: The ERIE compacts the asphalt uniformly because  $\frac{3}{4}$  of the weight of this roller is concentrated over the compression roll.

Roll the job with an ERIE and your margin of profit is larger. Write today for Bulletin "M."

**ERIE MACHINE SHOPS**  
Erie, Pa.



**ERIE ROLLERS**  
SINCE 1898



Model K  
Full revolving light  
 $\frac{1}{2}$ -yd. convertible  
shovel, crane, skimmer, dragline,  
trencher. Short tail  
swing.

### POWER SHOVELS Cranes, Trenchers SKIMMERS

Full or part circle

**BAY CITY SHOVELS, Inc.**  
Bay City, Mich.



WALKING  
DRAGLINE  
EXCAVATORS

SHOVELS  
CRANES  
DRAGLINES  
DREDGES

### Reliability!

Bucyrus-Eries are cutting costs in every part of the world. All sizes, types and powers of excavators. Railway cranes and "Load-master."

**Bucyrus-Erie Co.**  
South Milwaukee, Wisconsin



### BOTTOM DUMPING and TURN-OVER BUCKETS

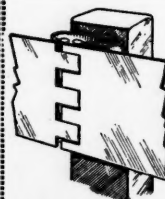
Write us for information on  
Contractors Buckets

**G. L. Stuebner Iron Works, Inc.**  
Manufacturers of Material Handling Equipment  
So. Hancock St. Long Island City, N. Y.

### INDUSTRIAL CAR EQUIPMENT



**THE ATLAS CAR & MANUFACTURING CO.**  
Cleveland, Ohio



### Absorbs the Severest Shocks

The Resilflex Guard Rail consists of broad galvanized plates, ends interlocking and supported under heavy tension by galvanized steel springs attached to posts.

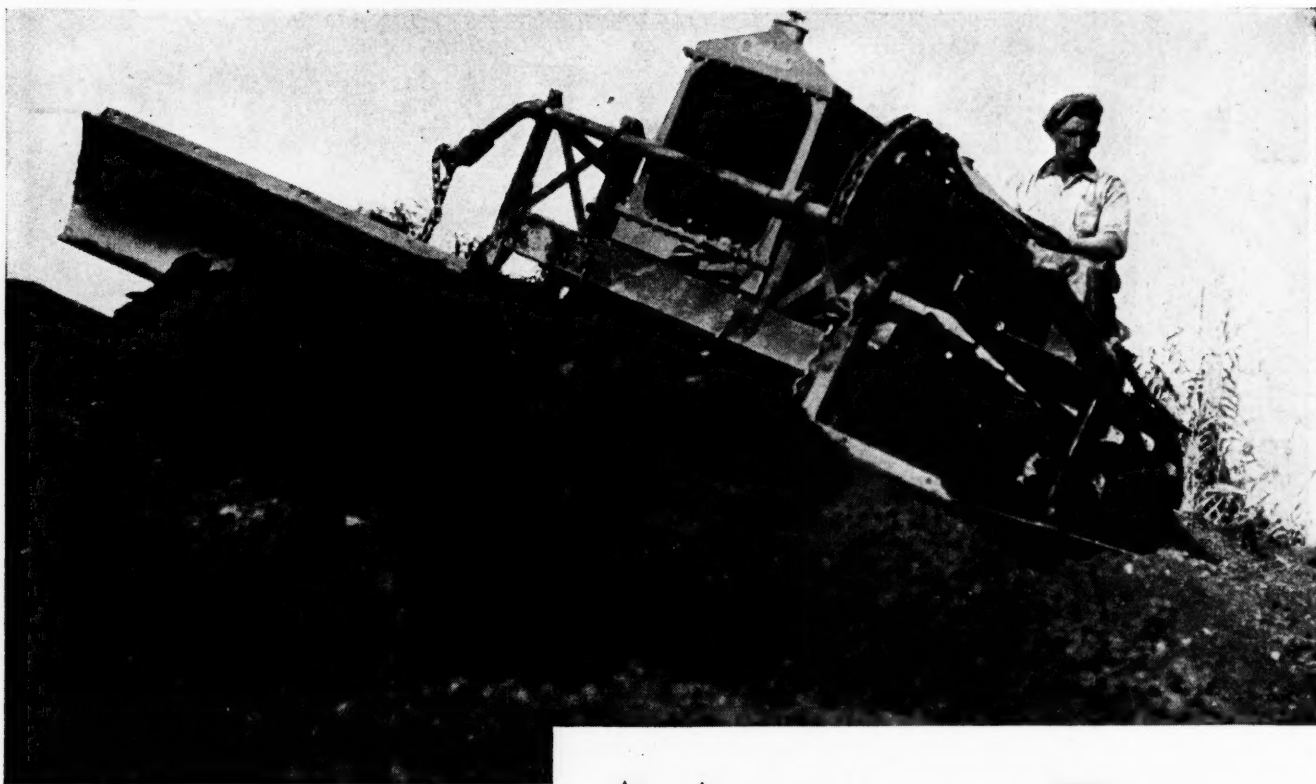
The interlocking joint assists in absorbing the severest shocks and insures a continuous structure for guarding traffic.

Literature describing in detail the many advantages of Resilflex Road Guards is yours for the asking.

**National Traffic Guard Co.**  
215 Moreland Ave., N. E. ATLANTA, GA.







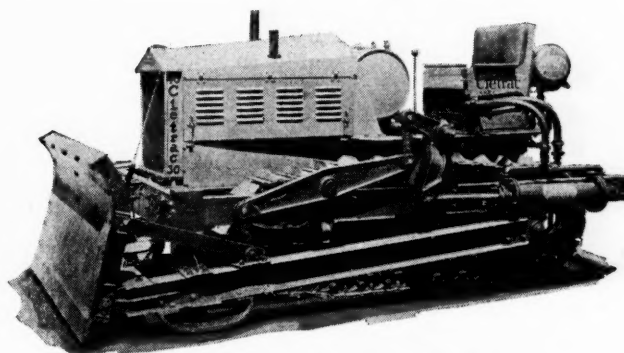
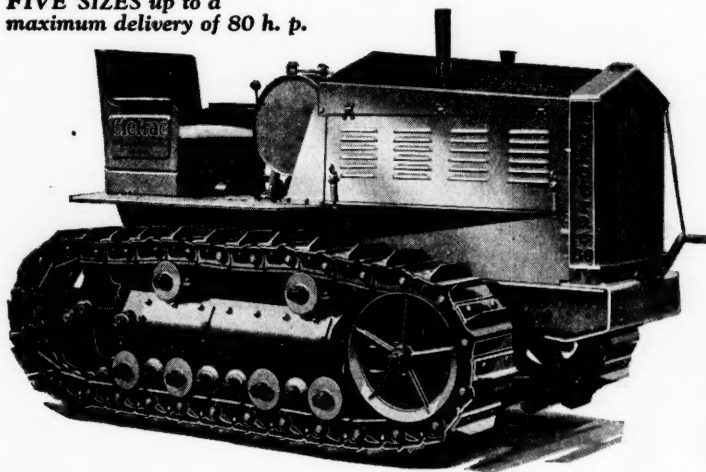
# It's Time to MOVE DIRT

**W**HETHER its a bulldozer job or one that calls for a Fresno, nothing can speed up the work like Cletrac Crawler power.

Cletrac delivers unusual power for either "push" or "pull". It travels fast and saves time. There's no time out for daily hand oiling. There's less lost motion because of Cletrac's quick action steering and nimble turning. Precision control enables the operator to put blade or scoop right where it's wanted without a lot of maneuvering.

Make your next grading or filling job a faster and cheaper operation by using a Cletrac Crawler.

**FIVE SIZES up to a maximum delivery of 80 h. p.**



CLETRAC "40-30" and Hydraulic Bulldozer

The Cletrac "40-30" is an ideal middle-size unit for the average job—or select the Cletrac "15" (15 h. p.) if you want maximum economy on a small contract. Both models are designed and arranged for all standard equipment hook-ups.

See the Cletrac dealer or mail the coupon.

THE CLEVELAND TRACTOR CO.  
19333 Euclid Ave. Cleveland, Ohio

**Cletrac**  
Crawler Tractors

The Cleveland Tractor Co.  
19333 Euclid Ave., Cleveland Ohio

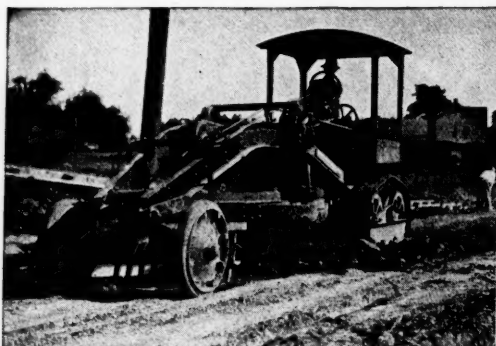
Send information on models checked

☐ The "15" ☐ The "20" ☐ The "40-30" ☐ The "40" ☐ The "80-60"

Type of work.....

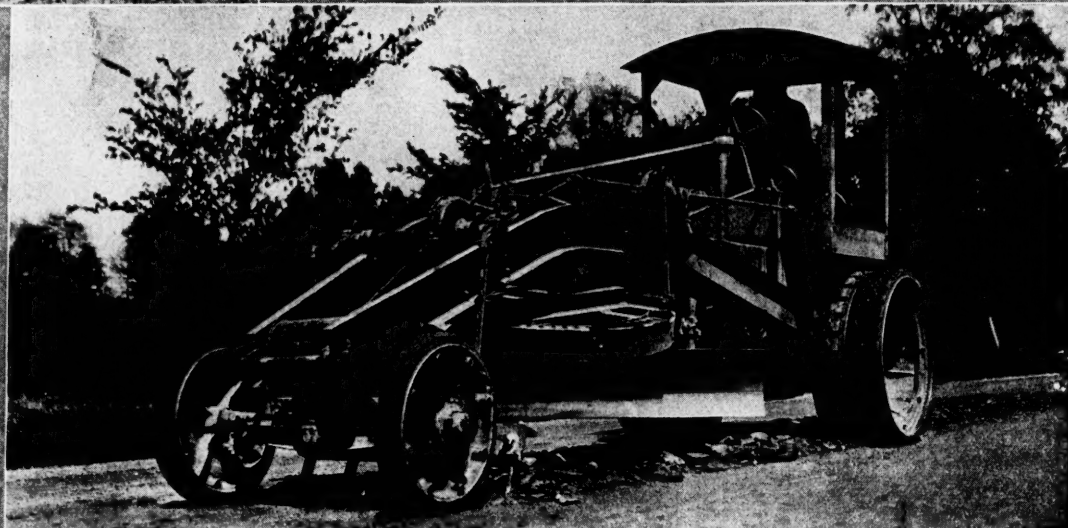
Name.....

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# 3 TRACTORS TREADS

**"COST LESS  
IN THE  
LONG RUN  
ALWAYS"**



ADAMS Motor Graders—smoothest-cutting motor graders ever built—are available in your choice of three powerful tractors and three treads to meet your requirements.

ADAMS Motor Grader No. 102 is powered by McCormick-Deering Model 20 Tractor—equipped with pneumatic or solid rubber tires, or with steel crawlers; also with new 4-wheel drive. Three treads—pneumatic or solid rubber tires or steel crawlers—also available on Motor Grader No. 16, driven by Allis-Chalmers Model "U" Tractor. Motor Grader No. 15 furnished either with pneumatic or solid tires is driven by sturdy Case Model "LI" Tractor.

ADAMS construction embodies three outstanding features: (1) Greatest effec-



tive weight on blade. (2) Exceptional blade rigidity due to new frame construction. (3) Absolutely no lost motion in blade control, because of machine finished ball and socket connections—all adjustable for wear. Send today for catalog descriptive of the complete line of ADAMS road machinery.

**THE ADAMS  
LINE ALSO  
INCLUDES—**

Leaning Wheel  
Graders,  
Elevating Graders,  
Scarifier Graders,  
Dump Wagons,  
Road Maintainers,  
Patrols, Drags,  
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Plows, etc.

**J. D. Adams Company**  
Indianapolis, Ind.

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# ADAMS

## MOTOR GRADERS



# Unique Unprecedented

**CRISP COUNTY, GEORGIA** has constructed and is operating first County Owned Hydro-electric plant in America.

**CAPACITY**, Initial 10,000 Horse power, Ultimate 20,000 Horse power.

**RESERVE STEAM PLANT** Capacity, Initial 3,000 Horse power, Ultimate, 10,000 Horse power.

**LOWEST ELECTRIC RATES IN UNITED STATES.** Example:— First two hundred (200) kilowatt hours residential service cost NET 3.6 cents per kilowatt hour—For all over 200 kilowatt hours residential per month ONE (1) cent per kilowatt hour.

**INDUSTRIAL POWER RATES;** Sliding scale beginning at five cents per kilowatt hour for small consumers and sliding as low as seven-tenths of a cent per kilowatt hour for large consumers. *No Demand—No Minimum.*

INQUIRIES INVITED

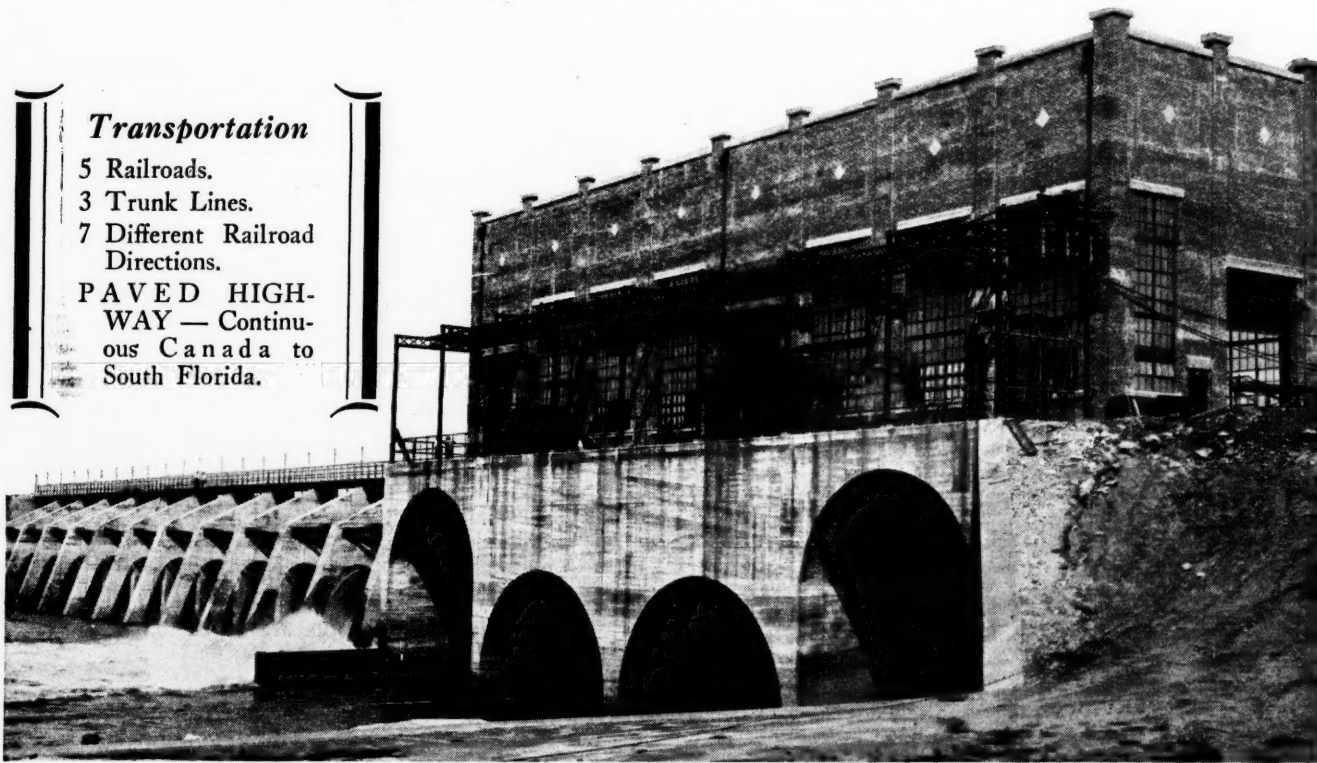
**Crisp County Power Commission, Cordele, Ga.**

*Watch subsequent issues of the MANUFACTURERS RECORD for further information.*

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- 5 Railroads.
- 3 Trunk Lines.
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WAY — Continu-  
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South Florida.



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Leads the Union in the production of citrus fruits and winter vegetables.

Cattle raising and dairying are also fast becoming leading industries of the state.

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*You should investigate these and other opportunities that the state has to offer.*

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*The late Henry M. Flagler and his organizations have served Florida since 1886*

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Railway Company**

*The Road of Personal Service*

Nashville, Tenn.

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In the center of theatre and shopping districts. Floor lamps, fans, circulating ice water in every room. The quiet, refined atmosphere of an exclusive club—an hotel of distinction. Dining room. Coffee shop. Garage service.

400 ROOMS — \$3.00 to \$6.00  
BATHS

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St. Louis' newest and smartest hotel opened September 3rd. In the heart of business district. Dining room. Coffee shop. Garage service.

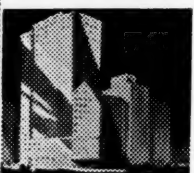
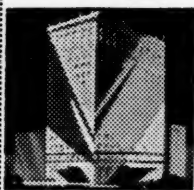
400 Rooms with tub bath and shower — \$3.00 to \$6.00

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An undercurrent of old-time Southern hospitality; an atmosphere of cordiality tending to dispel any possible feeling of loneliness in a strange city; deliciously prepared foods and attentive service, all combine for your comfort and pleasure during a stay here.

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**The Southern Hotel**  
BALTIMORE

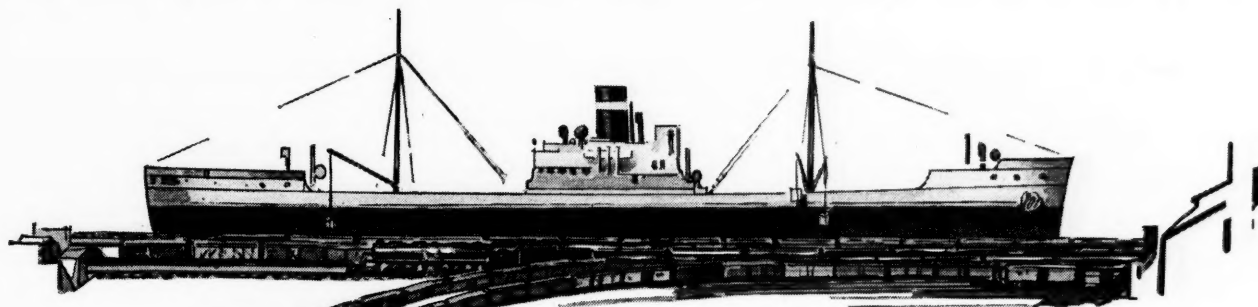
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**MANUFACTURERS RECORD**  
Baltimore, Maryland



# WHEN YOUR SHIP



## COMES IN

THROUGHOUT the world those who follow the sea recognize the Port of Norfolk as "The World's Greatest Natural Harbor." Throughout the United States traffic managers have found that one of the greatest taxes on foreign freight, measured in cost, time and damage to merchandise, is the transfer between ship and rail.

At Lambert Point (Norfolk, Va.) the Norfolk and Western Railway owns five modern merchandise piers capable of docking twenty-three cargo vessels. In the slips are thirty-five feet of water, providing dockage for any merchantman afloat. Norfolk and Western rails enter the transit sheds where both loading and discharging--direct from car to ship and vice-versa--are weather protected. Thus the railway is enabled by rail to receive from or deliver to every rail terminal in the harbor at which ships load or discharge and without the use of lighters.

The railway's enormous warehouses at the Port of Norfolk have large sections under both temperature and humidity control. There is continuous shelter for freight from pier to storage--and every modern freight handling device including a fleet of gas and electric tractors, portable cranes, escalators, piling machinery and trucks designed for varied uses.

Added to the foregoing facilities are the Norfolk and Western Railway's traffic and operating staffs, both ever mindful that efficiency and economy are primary factors "when your ship comes in" . . . or leaves.

Norfolk and Western Freight Traffic Department representatives, at points shown below are at your service.

New York

Norfolk

Chicago

Cincinnati

San Francisco



# NORFOLK AND WESTERN RAILWAY

# Classified Reference Index for Buyers

## ABRASIVE MATERIALS.

Carborundum Co., Niagara Falls, N. Y.

## ACCOUNTANTS (Cert. and Cost.)

Audit Company of the South, Atlanta, Ga.  
Ernst & Ernst, New York, N. Y.

## AIR COMPRESSORS (Stationary and Portable.)

De Laval Steam Turbine Co., Trenton, N.J.  
General Electric Co., Schenectady, N. Y.  
Quincy Compressor Co., Quincy, Ill.  
Westinghouse Traction Brake Co., Wilmerding, Pa.

## AIR CONDITIONING SYSTEMS.

Niagara Blower Co., New York, N. Y.

## AIR HEATERS.

Babcock & Wilcox Co., New York.

## AIRLOCKS.

Alco Products, Inc., New York, N. Y.

## AIRPORTS.

Shaw Co., Russell B., St. Louis, Mo.

## ANGLE IRON-WORKING MACHINERY.

Whitney Metal Tool Co., Rockford, Ill.

## APPRAISERS.

Conard, William B., Burlington, N. J.  
Main, Inc., Chas. T., Boston, Mass.

## ARCHITECTS.

Chase, Wm. J. J., Atlanta.  
Main, Inc., Chas. T., Boston, Mass.  
Milburn, Helster & Co., Wash., D. C.  
Moyer Co., Tilghman, Allentown, Pa.  
Preacher & Co., Inc., G. Lloyd, Atlanta.  
Birrine & Co., J. E., Greenville, S. C.  
Wheeler, Walter H., Minneapolis, Minn.

## ARCHITECTS' SUPPLIES.

Weber Co., Inc., F., Philadelphia, Pa.

## ARCHITECTURAL IRON WORK.

Dietrich Brothers, Baltimore, Md.  
Virginia Bridge & Iron Co., Roanoke, Va.

## ASPHALT.

Gulf Refining Co., Pittsburgh, Pa.

## —(Emulsified.)

Headley Emulsified Products Co., Philadelphia, Pa.

## —Filler.

American Limestone Co., Knoxville, Tenn.

## —Paving.

Barber Asphalt Co., Philadelphia, Pa.

## —(Plants.)

Simplicity System Co., Chattanooga, Tenn.

## AUDITORS.

Ernst & Ernst, New York, N. Y.

## BABBITT METAL.

Byerson & Sons, Inc., Jos. W., St. Louis and New York.

## BACKFILLERS.

Harbinger Corp., Milwaukee, Wis.  
National Equipment Corp. (Insley, Parsons), Milwaukee, Wis.

## BALLAST (Railroad.)

American Limestone Co., Knoxville, Tenn.

## BANKS and TRUST COMPANIES.

Baltimore Commercial Bank, Balto., Md.  
Baltimore Trust Co., Baltimore, Md.  
Bank of New York & Trust Co., New York City.  
First and Merchants National Bank, Richmond, Va.  
Provident Savings Bank & Trust Co., Cincinnati, Ohio.

## BARGES (Steel.)

American Bridge Co., New York, N. Y.  
McClintic-Marshall Co., Pittsburgh, Pa.

## BARBS (Steel, Rounds, Flats, Hexagon and Squares.)

Carnegie Steel Co., Pittsburgh, Pa.  
Cannons Steel Co., Birmingham, Ala.  
Gulf States Steel Co., Birmingham, Ala.  
Ingalls Iron Works Co., Birmingham.  
Knoxville Iron Co., Knoxville, Tenn.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York.  
Sweet's Steel Corp., Williamsport, Pa.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Timken Roller Bearing Co., Canton, O.  
Virginia Bridge & Iron Co., Roanoke, Va.  
Youngstown Sheet & Tube Co., Youngstown, Ohio.

## BATTERIES (Storage.)

Electric Storage Battery Co., Phila., Pa.

## BEAMS, CHANNELS, ANGLES.

Belmont Iron Works, Philadelphia, Pa.  
Carnegie Steel Co., Pittsburgh, Pa.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Ingalls Iron Works Co., Birmingham.  
Jones & Laughlin Steel Corp., Pittsburgh, Pa.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.  
Virginia Bridge & Iron Co., Roanoke, Va.

## BEARINGS (Anti-friction.)

Timken Roller Bearing Co., Canton, Ohio.

## —(Roller.)

Timken Roller Bearing Co., Canton, Ohio.

## BELT (Chain.)

Diamond Chain & Mfg. Co., Indianapolis.

## —(Leather, Canvas, Rubber.)

Charlotte Leather Belting Co., Charlotte, N. C.

## —Dressing.

Charlotte Leather Belting Co., Charlotte, N. C.

## —Fasteners.

Dixon Crucible Co., Jos., Jersey City, N.J.

## —Lacing (Steel Hinges.)

Flexible Steel Lacing Co., Chicago, Ill.

## BELT CONVEYORS.

Barber-Greene Co., Aurora, Ill.

## BILLETS (Basic Open Hearth.)

Gulf States Steel Co., Birmingham, Ala.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

## BINS (Steel Loading.)

Blaw-Knox Co., Pittsburgh, Pa.  
Butler Bin Co., Waukegan, Wis.

## BLASTING POWDER and Accessories.

Du Pont de Nemours & Co., E. I., Wilmington, Del.

## BLINDS (Venetian and Awnings.)

Wilson Corp., The J. G., New York.

## BLOCKS (Chain)

Wright Mfg. Co., Bridgeport, Conn.

## —(Friction.)

Palmer Asbestos & Rubber Corp., Chicago.

## BOILERS (New.)

Babcock & Wilcox Co., The, New York.  
Charleston Dry Dock & Machine Co., Charleston, S. C.  
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Cole Mfg. Co., E. D., Newnan, Ga.  
Combustion Engr. Corp., New York, N. Y.  
Hedges Walsh Weldner Co., Chattanooga, Tenn.  
Lombard Iron Works & Supply Co., Augusta, Ga.  
Lookout Boiler & Mfg. Co., Chattanooga, Tenn.  
Schofield's Sons Co., J. S., Macon, Ga.  
Titusville Iron Works Co., Titusville, Pa.

## —(Oil.)

Babcock & Wilcox Co., New York.

## —(Scotch Marine.)

Lookout Boiler & Mfg. Co., Chattanooga, Tenn.

## —(Used.)

Delta Equipment Co., Philadelphia, Pa.  
O'Brien Machinery Co., Philadelphia, Pa.  
Randle Machinery Co., The, Cincinnati, O.  
Zelnicke Supply Co., W. A., St. Louis.

## BOILER SETTINGS.

Babcock & Wilcox Co., New York.

## —Tubes.

Babcock & Wilcox Co., New York.  
National Tube Co., Pittsburgh, Pa.  
Ryerson & Son, Inc., Jos. T., St. Louis and New York.

## —Tubes (Charcoal, Iron.)

Reading Iron Co., Reading, Pa.

## BOLTS, Rivets, Studs, Washers.

Bethlehem Steel Co., Bethlehem, Pa.  
Oliver Iron & Steel Corp., Pittsburgh, Pa.  
Progressive Mfg. Co., Torrington, Conn.  
Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.  
Byerson & Son, Inc., Jos. T., St. Louis and New York.  
Virginia Bridge & Iron Co., Roanoke, Va.

## —(Track.)

Sweet's Steel Co., Williamsport, Pa.

## BOND BUYERS.

Hanchett Bond Co., Inc., The, Chicago.  
Law & Co., A. M., Spartanburg, S. C.  
Nuveen & Co., John, Chicago, Ill.  
Provident Savings Bank and Trust Co., Cincinnati, Ohio.

## BORINGS (Cora.)

Kennedy-Riegger Drilling Co., New York City.  
Mott Core Drilling Co., Huntington, W. Va.  
Pennsylvania Drilling Co., Pittsburgh, Pa.  
Southern Drilling Co., Saltville, Va.  
Sprague & Henwood, Inc., Scranton, Pa.

## BOXES (Paper.)

Old Dominion Box Co., Lynchburg, Va.

## BRAKE LINING

Palmer Asbestos & Rubber Corp., Chicago.

## BRASS GOODS.

Mueller Co., Decatur, Ill.

## BRICK (Common Building.)

Friend & Co., Inc., Petersburg, Va.

## —(Vitrified, Paving.)

National Paving Brick Mfrs. Assn., Washington, D. C.

## —and Clayworking Machy.

Steel & Sons, J. C., Statesville, N. C.

## BRIDGE (Operating Machinery.)

Carrie Gear & Machine Co., Phila., Pa.

## —Slabs

Kerlow Steel Flooring Co., Jersey City, N.J.

## —Timber.

American Cresoiting Co., Louisville, Ky.  
Kirby Lumber Co., Houston, Texas.

## BRIDGES (Steel.)

American Bridge Co., New York, N. Y.  
Belmont Iron Works, Philadelphia, Pa.  
Bristol Steel & Iron Works, Inc., Bristol, Va.  
Converse Bridge & Steel Co., Chattanooga, Tenn.  
Ingalls Iron Works Co., Birmingham, Ala.  
McClintic-Marshall Co., Pittsburgh, Pa.  
Roanoke Iron & Bridge Works, Roanoke, Va.  
Virginia Bridge & Iron Co., Roanoke, Va.

## BRONZE (Architectural.)

Heath Company, J. S., Waukegan, Ill.  
Michaels Art Bronze Co., Covington, Ky.

## BUBBLERS.

Bundie-Spence Mfg. Co., Milwaukee, Wis.

## BUCKETS (Clam Shell.)

Blaw-Knox Co., Pittsburgh, Pa.  
Industrial Brownhoist Corp., Cleveland, O.  
Owen Bucket Co., The, Cleveland, Ohio.  
Williams Company, G. H., Erie, Pa.

## —(Coal.)

Owen Bucket Co., Cleveland, O.

## —(Dredging, Excavating, Sewer, etc.)

Owen Bucket Co., The, Cleveland, Ohio.  
Ruebner Iron Works, G. L., Long Island City, N. Y.  
Williams Company, G. H., Erie, Pa.

## —(Elevator.)

Hendrick Mfg. Co., Carbondale, Pa.

## —(Material Handling.)

Owen Bucket Co., Cleveland, O.

## —(Ore Handling.)

Owen Bucket Co., The, Cleveland, Ohio.  
Ruebner Iron Works, G. L., Long Island City, N. Y.

## —(Rehandling.)

Owen Bucket Co., Cleveland, O.

## —(Sand and Gravel.)

Owen Bucket Co., Cleveland, O.  
Williams Company, G. H., Erie, Pa.

## BUILDERS and Contractors.

Cowper Co., Inc., The John W., Richmond, Va.  
Lockwood Greene Engrs., Inc., Boston.  
Moyer Co., Tilghman, Allentown, Pa.  
Thompson & Bros., T. C., Charlotte, N. C.  
United Engineers & Constructors, Phila.  
White Engineering Corp., J. G., New York.

## BUILDINGS (Industrial.)

Belmont Iron Works, Philadelphia, Pa.  
Blaw-Knox Co., Pittsburgh, Pa.  
Ingalls Iron Works Co., Birmingham.  
McClintic-Marshall Co., Pittsburgh, Pa.  
Trucon Steel Co., Youngstown, O.  
Virginia Bridge & Iron Co., Roanoke, Va.

## —(Portable Sheet Metal.)

Birmingham Tank Co., Birmingham.

## BULKHEADS.

Shore-Line Builders, Inc., Jacksonville, Fla.  
Snare Corp., Frederick, New York, N. Y.

## BULLDOZERS.

Trackson Co., Milwaukee, Wis.

## BURLAP.

Fulton Bag & Cotton Mills, Atlanta, Ga.

## BUSINESS METHODS.

Ernst & Ernst, New York, N. Y.

## CABLE (Elevator.)

American Steel & Wire Co., Chicago, Ill.  
Roebbling's Sons Co., John A., Trenton, N. J.

## —(Stud Link.)

Woodhouse Chain Works, Trenton, N. J.

## —and Wire (Electric.)

American Steel & Wire Co., Balto., Md.  
Roebbling's Sons Co., John A., Trenton, N. J.  
Western Electric Co., New York City.

## CALCIUM CHLORIDE.

Grasselli Chemical Co., Inc., Birmingham.

## CAN and Box-Making Machinery

(Tin.)  
Bliss Co., E. W., Brooklyn, N. Y.

## CANNING MACHINERY.

Robins & Co., A. K., Baltimore, Md.

## CANVAS.

Fulton Bag & Cotton Mills, Atlanta, Ga.

## CAR (Loaders and Unloaders)

Barber-Greene Co., Aurora, Ill.

## CARS (Dump, Industrial, Logging and Mine.)

Atlas Car & Mfg. Co., The, Cleveland, O.  
Southern Iron & Equipment Co., Atlanta.



**Steps (Safety.)**  
Irving Iron Works, Co., Long Island City  
N. Y.

**CASSIONS (Foundations, Water  
Wells, etc.)**  
United Welding Co., Middletown, O.

**CASTINGS (Alloy.)**  
Mountain State Steel Foundries, Parkers-  
burg, W. Va.

**—(Brass, Bronze and  
Aluminum.)**  
Richmond Foundry & Mfg. Co., Rich-  
mond, Va.  
Savannah Mch. & Fdry. Co., Savannah, Ga.

**—(Chilled Iron.)**  
Fuller Lehigh Co., Fullerton, Penna.

**—(Gray Iron.)**  
Fuller Lehigh Co., Fullerton, Penna.  
Glamorgan Pipe & Fdry. Co., Lynchburg, Va.  
Jefferson Foundry Co., Birmingham, Ala.  
National Cast Iron Pipe Co., Birmingham,  
Ala.  
Richmond Foundry & Mfg. Co., Rich-  
mond, Va.  
Salem Fdry. & Mch. Wks., Salem, Va.  
Savannah Mch. & Fdry. Co., Savannah, Ga.  
Schofield's Sons Co., J. S., Macon, Ga.  
U.S. Pipe & Foundry Co., Burlington, N. J.

**—(Malleable Iron and Steel.)**  
Timken Roller Bearing Co., Canton, O.

**—(Semi-Steel.)**  
Jefferson Foundry Co., Birmingham, Ala.  
Salem Fdry. & Mch. Wks., Salem, Va.

**—(Steel.)**  
Bethlehem Steel Co., Bethlehem, Pa.  
Crucible Steel Casting Co., Lansdowne,  
Delaware Co., Pa.  
Lunkenshimer Co., Cincinnati, Ohio.  
Mountain State Steel Foundries, Parkers-  
burg, W. Va.

**CEMENT (Portland.)**  
Alpha Portland Cement Corp., Birming-  
ham, Ala.

**—Guns.**  
Cement-Gun Co., Inc., Allentown, Pa.

**—Machinery.**  
Traylor Engr. & Mfg. Co., Allentown, Pa.

**CHAIN BLOCKS (See Blocks,  
Chain.)**

**CHAINS (Dredge, Quarry, Steam  
Shovel.)**  
Knoxville Iron Co., Knoxville, Tenn.  
Woodhouse Chain Works, Trenton, N. J.

**—(High Speed Roller.)**  
Diamond Chain & Mfg. Co., Indianapolis.

**—(Silent Drive.)**  
Diamond Chain & Mfg. Co., Indianapolis.

**—(Welded.)**  
Woodhouse Chain Works, Trenton, N. J.

**CHAIRS (Opera and Theatre.)**  
Andrews Co., A. H., Chicago, Ill.

**CHEMICALS.**  
Davison Chemical Co., Baltimore, Md.  
Grasselli Chemical Co., Inc., Birmingham

**CHEMISTS, CHEMICAL ENGI-  
NEERS (Analytical.)**

Barrow-Agee Laboratories, Memphis, Tenn.  
Froehling & Robertson, Inc., Richmond, Va.  
Hunt Co., Robert W., Chicago, Ill.  
Longdale Laboratories, Inc., Richmond, Va.  
Moigs, Bassett & Slaughter, Phila., Pa.  
Moss, Jr., W. Wade, Columbus, Ga.  
Picard Laboratories, Birmingham, Ala.  
Pittsburgh Testing Laboratories, Pitts-  
burgh, Pa.  
Southwestern Laboratories, Fort Worth, Tex.  
Stillman & Van Stien, New York.

**—(Consulting, Paper Industry.)**  
Froehling & Robertson, Inc., Richmond, Va.

**CHIMNEYS (Concrete.)**  
Rust Engineering Co., Birmingham, Ala.

**—(Radial Brick.)**  
Northwestern Chimney Constr. Co., Cleve-  
land, O.  
Rust Engineering Co., Birmingham, Ala.

**—Inspected and Repaired.**  
Northwestern Chimney Constr. Co., Cleve-  
land, O.

**CHLORIDE ACCUMULATOR.**  
Electric Storage Battery Co., Phila., Pa.

**CHUTES.**  
Cutler Mail Chute Co., Rochester, N. Y.

**CIRCUIT BREAKERS.**  
Westinghouse Electric & Mfg. Co.,  
Pittsburgh, Pa.

**CLOCKS (Watchman's Portable.)**  
Davis-Paradis Watchman's Clock Corp.,  
New York, N. Y.

**CLOTH (Wire.)**  
Newark Wire Cloth Co., Newark, N. J.

**CLUTCHES (Friction.)**  
Caldwell Co., Inc., W. E., Louisville, E.

**COAL (Bituminous.)**  
Tennessee Coal, Iron & Railroad Co., Birming-  
ham, Ala.

**—and Ash-Handling Mch.**  
Industrial Brownhoist Corp., Cleveland, O.  
Northwest Engineering Co., Chicago.

**—Jigs.**  
Steward Machine Co., Chas. C., Birming-  
ham, Ala.

**—Tipples.**  
American Bridge Co., New York, N. Y.  
Virginia Bridge & Iron Co., Roanoke, Va.

**—Washers.**  
Steward Machine Co., Chas. C., Birming-  
ham, Ala.

**COATINGS (Protective.)**  
Headley Enamelled Products Co., Phila-  
delphia, Pa.

**COCKS (Service.)**  
Merco Nordstrom Valve Co., San Francisco,  
Calif.

**COKE.**  
Tennessee Coal, Iron & Railroad Co.  
Birmingham, Ala.

**COLUMNS (Cast Iron.)**  
U. S. Pipe & Fdry. Co., Burlington, N. J.

**CONCRETE (Block Machinery.)**  
Blystone Mfg. Co., Cambridge Springs, Pa.

**—Construction (Reinforced.)**  
Cement-Gun Co., Inc., Allentown, Pa.  
Cement Gun Construction Co., Chicago.  
Rust Engineering Co., Birmingham, Ala.

**—Floor Slabs.**  
Federal-American Cement Tile Co., Chicago.

**—Mixers.**  
Blystone Mfg. Co., Cambridge Springs, Pa.  
Dunning & Boschert Press Co., Inc.,  
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Jaeger Machine Co., Columbus, Ohio.

**—Pipe Machinery (See Pipe  
Machinery, Concrete.)**

**—Placing Equipment.**  
National Equipment Corp. (Insley Divi-  
sion), Milwaukee, Wis.

**—Roofing Tile.**  
Federal-American Cement Tile Co., Chicago.

**CONDENSERS.**  
Manitowoc Iron Works Co., Manitowoc, Mich.  
Westinghouse Electric & Mfg. Co.,  
Pittsburgh, Pa.

**CONDUITS (Electric, Interior  
Steel.)**

Western Electric Co., New York, N. Y.  
Youngstown Sheet & Tube Co., Youngs-  
town, Ohio.

**CONTRACTORS (Bridge.)**  
Hardaway Contracting Co., Columbus, Ga.  
Kansas City Bridge Co., Kansas City, Mo.  
Sears Corp., Frederick, New York.

**—(Drainage and Dredging.)**  
Arundel Corp., The, Baltimore, Md.  
Atlantic Gulf and Pacific Co., New York.

**—(Electrical.)**  
Virginia Engineering Co., Inc., Newport  
News, Va.  
Walker Electrical Co., Atlanta, Ga.  
Warner Service Co., Knoxville, Tenn.  
Webb Electric Co., Anderson, S. C.

**—(Foundations and Dams.)**  
Sears Corp., Frederick, New York, N. Y.

**—(General.)**  
Blair, Algerson, Montgomery, Ala.  
Burke, Inc., J. V. & E. T., New Orleans.  
Cornell Young Co., Inc., Macon, Ga.  
Cowper Co., Inc., John W., Richmond, Va.  
Fiske-Carter Constr. Co., Greenville, S. C.  
Gridley Constr. Co., Lee A., Knoxville,  
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Lockwood Greene Engrs., Inc., Boston.  
Smallman-MacQueen Construction Co.,  
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Snare Corp., Frederick, New York. N. Y.  
Thompson & Bros., T. C., Charlotte, N. C.  
Tucker & Laxton, Charlotte, N. C.  
Virginia Engineering Co., Inc., Newport  
News, Va.  
White Engineering Corp., J. G., New York.

### —Mill Village.

Hornbuckle Contracting Co., Atlanta, Ga.

### —(Power Piping.)

Pittsburgh Piping & Equip. Co., Pitts-  
burgh, Pa.  
Poe Piping & Heating Co., Greenville, S. C.

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Snare Corp., Frederick, New York. N. Y.  
Virginia Engineering Co., Inc., Newport  
News, Va.

### —(Railroad.)

Cornell-Young Co., Inc., Macon, Ga.

### —(Reinforced Concrete.)

Blair, Algernon, Montgomery, Ala.  
Cement Gun Construction Co., Chicago.  
Gunite Cons. & Constr. Co., Kansas City.  
Tucker & Laxton, Charlotte, N. C.

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Griddle Constr. Co., Lee A., Knoxville,  
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Hornbuckle Contracting Co., Atlanta, Ga.  
McCrory Co., J. B., Atlanta, Ga.  
Virginia Engineering Co., Inc., Newport  
News, Va.

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Tenn.  
Hardaway Contracting Co., Columbus, Ga.  
Hornbuckle Contracting Co., Atlanta, Ga.  
McCrory Co., The J. B., Atlanta, Ga.  
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Tucker & Laxton, Charlotte, N. C.  
Virginia Engineering Co., Inc., Newport  
News, Va.

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National Equipment Co. (Insley, Koeh-  
ring, Parsons), Milwaukee, Wis.

Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The, Lorain, Ohio.

### —(Cantilever, Gantry.)

Bedford Foundry & Machine Co., Bed-  
ford, Ind.

### —(Crawler.)

Harnischfeger Corp., Milwaukee, Wis.  
Industrial Brownhoist Corp., Cleveland, O.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The, Lorain, Ohio.

### —(Crawling Tractor.)

Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The, Lorain, Ohio.

### —(Electric Traveling.)

Bedford Foundry & Machine Co., Bed-  
ford, Ind.  
Harnischfeger Corp., Milwaukee, Wis.

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tric.)  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The, Lorain, Ohio.

### —(Gasoline.)

Harnischfeger Corp., Milwaukee, Wis.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The, Lorain, Ohio.

### —(Locomotive.)

Bucyrus-Erie Co., So. Milwaukee, Wis.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The, Lorain, Ohio.

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Bay City Shovels, Inc., Bay City, Mich.  
Industrial Brownhoist Corp., Cleveland, O.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The, Lorain, Ohio.  
Universal Crane Co., Lorain, Ohio.

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Wright Mfg. Co., Bridgeport, Conn.

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Fuller Lehigh Co., Fullerton, Pa.  
Raymond Bros. Impact Pulverizer Co.,  
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Traylor Engr. & Mfg. Co., Allentown, Pa.  
Universal Crusher Co., Cedar Rapids, Ia.

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Cast Iron Pipe Research Assn., Chicago.  
National Cast Iron Pipe Co., Birmingham.  
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Harnischfeger Corp., Milwaukee, Wis.  
Industrial Brownhoist Corp., Cleveland, O.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.

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Thew Shovel Co., The, Lorain, Ohio.

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General Electric Co., Schenectady, N. Y.  
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Randle Machinery Co., The, Cincinnati, O.  
Rockford Power Machy. Co., Rockford, Ill.

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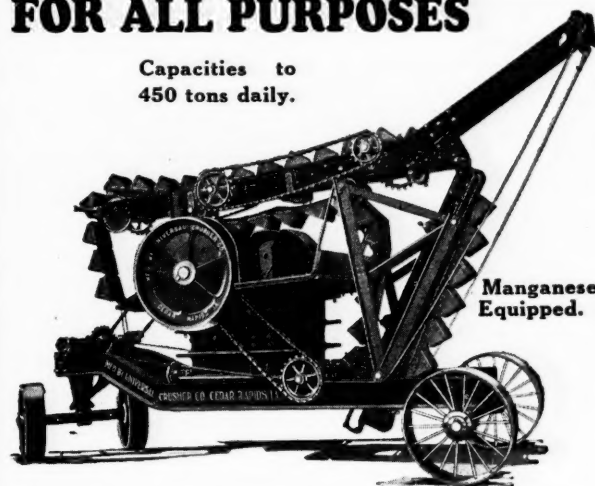
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Gardner & Howe, Memphis, Tenn.  
Greiner & Co., J. E., Baltimore, Md.  
Hardaway Contracting Co., Columbus, Ga.  
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.  
Southern Erectors, Inc., Tampa, Fla.  
Steel & Leiby, Knoxville, Tenn.  
Turner, C. A. P., Minneapolis, Minn.  
Virginia Bridge & Iron Co., Roanoke, Va.  
Wheeler, Walter H., Minneapolis, Minn.  
Whitman, Requaardt & Smith, Balto., Md.  
Wiley & Wilson, Lynchburg, Va.

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Dow & Smith, New York, N. Y.  
Moss, Jr., W. Wade, Columbus, Ga.  
Picard Laboratories, Birmingham, Ala.  
Pittsburgh Testing Laboratories, Pittsburgh, Pa.

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Gardner & Howe, Memphis, Tenn.  
Greiner & Co., J. E., Baltimore, Md.  
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Hills Co., George B., Jacksonville, Fla.  
Huey, S. E., Monroe, La.  
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Main, Inc., Chas. T., Boston, Mass.  
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Cramer, Robert, Milwaukee, Wis.  
Engineering Service Corp., Houston, Tex.  
Goder, Joseph, Chicago, Ill.  
Harrub Engr. Co., C. N., Nashville, Tenn.  
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.  
Lockwood Greene Engrs., Inc., New York.  
Main, Inc., Chas. T., Boston, Mass.  
Smith, Elroy G., Augusta, Ga.  
Stillman & Van Sieten, New York, N. Y.  
United Engineers & Constructors, Phila.  
Wadleigh & Bailey, Washington, D. C.  
White Engineering Corp., J. G., New York  
Whitman, Requaardt & Smith, Balto., Md.  
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#### —(Cost.)

Ernst & Ernst, New York, N. Y.  
May, Inc., Geo. S., Chicago, Ill.

#### —(Dams.)

Albaugh & Sons, Chas. W., Manassas, Va.  
Barstow & Co., W. S., New York City.  
Bylesby Engineering & Management Corp., Chicago, Ill.  
Gardner & Howe, Memphis, Tenn.  
Hardaway Contracting Co., Columbus, Ga.  
Harrub Engr. Co., C. N., Nashville, Tenn.  
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.  
Lee, William S., Charlotte, N. C.  
Main, Inc., Chas. T., Boston, Mass.  
Sirrins & Co., J. E., Greenville, S. C.  
Tucker & Lorton, Charlotte, N. C.  
Wheeler, Walter H., Minneapolis, Minn.  
White Engineering Corp., J. G., New York  
Wiley & Wilson, Lynchburg, Va.

#### —(Drainage and Irrigation.)

Cramer, Robert, Milwaukee, Wis.  
Hills Co., George B., Jacksonville, Fla.  
Huey, S. E., Monroe, La.

#### —(Efficiency.)

Ernst & Ernst, New York, N. Y.  
Whitman, Requaardt & Smith, Balto., Md.

#### —(Electrical.)

Engineering Service Corp., Houston, Tex.  
Hoosier Engineering Co., Chicago, Ill.  
Lee, William S., Charlotte, N. C.  
Lockwood Greene Engrs., Inc., New York.  
Main, Inc., Chas. T., Boston, Mass.  
Sanderson & Porter, New York, N. Y.  
Tucker & Lorton, Charlotte, N. C.  
Webb Electric Co., Anderson, S. C.  
White Co., Gilbert C., Durham, N. C.  
Wiley & Wilson, Lynchburg, Va.

#### —(Electric-Light and Power Plants.)

Barstow & Co., W. S., New York City.  
Bylesby Engineering & Management Corp., Chicago, Ill.  
Cramer, Robert, Milwaukee, Wis.  
Lee, William S., Charlotte, N. C.  
Main, Inc., Chas. T., Boston, Mass.  
Sanderson & Porter, New York, N. Y.  
Scotfield Engineering Co., Philadelphia.  
Tucker & Lorton, Charlotte, N. C.

White Engineering Corp., J. G., New York.  
White Co., Gilbert C., Durham, N. C.  
Wiley & Wilson, Lynchburg, Va.

#### —(Flood Control.)

Harrub Engr. Co., C. N., Nashville, Tenn.

#### —(Gas.)

Bylesby Engineering & Management Corp., Chicago, Ill.  
Huey, S. E., Monroe, La.

#### —(Geological.)

De Kalb, Courtenay, New York City.  
Froehling & Robertson, Richmond, Va.  
Moss, Jr., W. Wade, Columbus, Ga.  
Wadleigh & Bailey, Washington, D. C.

#### —(Harbor Improvements.)

Engineering Service Corp., Houston, Tex.

#### —(Heating.)

Wiley & Wilson, Lynchburg, Va.

#### —(Hydraulic.)

Albaugh & Sons, Chas. W., Manassas, Va.  
Harrub Engr. Co., C. N., Nashville, Tenn.  
Main, Inc., Chas. T., Boston, Mass.  
Whitman, Requaardt & Smith, Balto., Md.  
Wiley & Wilson, Lynchburg, Va.

#### —(Hydro-electric.)

Albaugh & Sons, Chas. W., Manassas, Va.  
Barstow & Co., W. S., New York City.  
Bylesby Engineering & Management Corp., Chicago, Ill.  
Harrub Engr. Co., C. N., Nashville, Tenn.  
Lee, William S., Charlotte, N. C.  
Main, Inc., Chas. T., Boston, Mass.  
Sanderson & Porter, New York, N. Y.  
Scotfield Engineering Co., Philadelphia.  
Sirrins & Co., J. E., Greenville, S. C.  
Tucker & Lorton, Charlotte, N. C.  
White Engineering Corp., J. G., New York  
Whitman, Requaardt & Smith, Balto., Md.  
Wiley & Wilson, Lynchburg, Va.

#### —(Ice and Refrigerating.)

Engineering Service Corp., Houston, Tex.

#### —(Industrial Plants.)

Barstow & Co., W. S., New York City.  
Conceor, Older & Quinlan, Inc., Chicago.  
Converse & Co., J. B., Mobile, Ala.  
Gardner & Howe, Memphis, Tenn.  
Greiner & Co., J. E., Baltimore, Md.  
Hills Co., George B., Jacksonville, Fla.  
Lockwood Greene Engrs., Inc., New York.  
MacKissee & Randall, Inc., Cambridge, Mass.  
Main, Inc., Chas. T., Boston, Mass.  
Preacher & Co., Inc., G. Lloyd, Atlanta.  
Sanderson & Porter, New York, N. Y.  
Scotfield Engineering Co., Philadelphia.  
Sirrins & Co., J. E., Greenville, S. C.  
Smith, Elroy G., Augusta, Ga.  
Turner, C. A. P., Minneapolis, Minn.  
United Engineers & Constructors, Phila.  
Wiley & Wilson, Lynchburg, Va.

#### —(Industrial Survey.)

Converse & Co., J. B., Mobile, Ala.  
Lockwood Greene Engrs., Inc., New York.  
Wadleigh & Bailey, Washington, D. C.

#### —(Inspection and Tests.)

Barrow-Agee Laboratories, Memphis, Tenn.  
Conceor, Older & Quinlan, Inc., Chicago.  
Cramer, Robert, Milwaukee, Wis.  
Dow & Smith, New York, N. Y.  
Froehling & Robertson, Richmond, Va.  
Hunt Co., Robert W., Chicago, Ill.  
Moss, Jr., W. Wade, Columbus, Ga.  
Picard Laboratories, Birmingham, Ala.  
Pittsburgh Testing Laboratories, Pittsburgh, Pa.  
Southwestern Laboratories, Ft. Worth, Tex.

#### —(Lighting.)

Bylesby Engineering & Management Corp., Chicago, Ill.  
Westinghouse Lamp Co., New York City  
Wiley & Wilson, Lynchburg, Va.

#### —(Mechanical.)

Charlton & Davis, Ft. Lauderdale, Fla.  
Engineering Service Corp., Houston, Tex.  
Lee, William S., Charlotte, N. C.  
Lockwood Greene Engrs., Inc., New York.  
Main, Inc., Chas. T., Boston, Mass.  
Meigs, Bassett & Slaughter, Phila., Pa.  
Sanderson & Porter, New York, N. Y.  
Wiley & Wilson, Lynchburg, Va.

#### —(Mining. See Engineers, Geological.)

#### —(Municipal.)

Conceor, Older & Quinlan, Inc., Chicago.  
Dow & Smith, New York, N. Y.  
Harrub Engr. Co., C. N., Nashville, Tenn.  
Hills Co., George B., Jacksonville, Fla.  
Huey, S. E., Monroe, La.  
Knowles, Inc., Morris, Pittsburgh, Pa.  
McCrary Co., The J. B., Atlanta, Ga.  
White Co., Gilbert C., Durham, N. C.  
Wiley & Wilson, Lynchburg, Va.

#### —(Paving and Roads.)

Dow & Smith, New York, N. Y.  
Freeland, Roberts & Co., Nashville, Tenn.

Harrub Engr. Co., C. N., Nashville, Tenn.  
White Co., Gilbert C., Durham, N. C.

#### —(Printing and Newspaper Plants.)

Lockwood Greene Engrs., Inc., New York.

#### —(Production.)

Scotfield Engineering Co., Philadelphia.

#### —(Public Service Properties.)

Barstow & Co., W. S., New York City.  
Bylesby Engineering & Management Corp., Chicago, Ill.  
Knowles, Inc., Morris, Pittsburgh, Pa.  
Main, Inc., Chas. T., Boston, Mass.  
Sanderson & Porter, New York, N. Y.  
Scotfield Engineering Co., Philadelphia.  
White Engineering Corp., J. G., New York.

#### —(Railroad.)

Huey, S. E., Monroe, La.

#### —(Reinforced Concrete Bridges, Buildings, etc.)

Freeland, Roberts & Co., Nashville, Tenn.  
Gardner & Howe, Memphis, Tenn.  
Greiner & Co., J. E., Baltimore, Md.  
Lockwood Greene Engrs., Inc., New York.  
Main, Inc., Chas. T., Boston, Mass.  
Steel & Leiby, Knoxville, Tenn.  
Tucker & Lorton, Charlotte, N. C.  
Turner, C. A. P., Minneapolis, Minn.  
Wheeler, Walter H., Minneapolis, Minn.

#### —(Sales Analysis.)

May, Inc., Geo. S., Chicago, Ill.

#### —(Sanitary.)

Cramer, Robert, Milwaukee, Wis.  
Harrub Engr. Co., C. N., Nashville, Tenn.  
Whitman, Requaardt & Smith, Balto., Md.  
Wiley & Wilson, Lynchburg, Va.

#### —(Sewage Disposal Plants.)

Cramer, Robert, Milwaukee, Wis.  
McCrary Co., The J. B., Atlanta, Ga.  
Whitman, Requaardt & Smith, Balto., Md.  
Wiedeman & Singleton, Inc., Atlanta.  
Wiley & Wilson, Lynchburg, Va.

#### —(Sewerage and Waterworks.)

Conceor, Older & Quinlan, Inc., Chicago.  
Hardaway Contracting Co., Columbus, Ga.  
Harrub Engr. Co., C. N., Nashville, Tenn.  
Hills Co., George B., Jacksonville, Fla.  
Knowles, Inc., Morris, Pittsburgh, Pa.  
Sanderson & Porter, New York, N. Y.  
Tucker & Lorton, Charlotte, N. C.  
White Co., Gilbert C., Durham, N. C.  
White Engineering Corp., J. G., New York  
Whitman, Requaardt & Smith, Balto., Md.  
Wiedeman & Singleton, Inc., Atlanta, Ga.  
Wiley & Wilson, Lynchburg, Va.

#### —(Structural.)

Freeland, Roberts & Co., Nashville, Tenn.  
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.  
Hills Co., George B., Jacksonville, Fla.  
Huey, S. E., Monroe, La.  
Lockwood Greene Engrs., Inc., New York.  
Southern Erectors, Inc., Tampa, Fla.  
Turner, C. A. P., Minneapolis, Minn.  
United Engineers & Constructors, Phila.  
Virginia Bridge & Iron Co., Roanoke, Va.  
Whitman, Requaardt & Smith, Balto., Md.

#### —(Textile Mills.)

Lockwood Greene Engrs., Inc., New York.  
Main, Inc., Chas. T., Boston, Mass.  
Sirrins & Co., J. E., Greenville, S. C.

#### —(Transmission Lines.)

Hoosier Engineering Co., Chicago, Ill.

#### —(Ventilating and Heating.)

Wiley & Wilson, Lynchburg, Va.

#### —(Water Supply.)

Whitman, Requaardt & Smith, Balto., Md.  
Wiley & Wilson, Lynchburg, Va.

#### ENGINES (Compressed Air.)

Dake Engine Co., Grand Haven, Mich.

#### —(Diesel Type.)

Fairbanks, Morse & Co., Chicago, Ill.

#### —(Gas and Gasoline.)

Sterling Engine Co., Buffalo, N. Y.

#### —(Marine.)

Fairbanks, Morse & Co., Chicago, Ill.

#### —(Oil.)

Continental Gas Co., Birmingham, Ala.

#### —(Steam.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.

Lombard Iron Works & Supply Co., Augusta, Ga.  
Scheldt's Sons Co., J. S., Mason, Ga.

#### ENVELOPES.

Young & Selden Co., Baltimore, Md.

#### ESTIMATORS (Building & Construction.)

Martin, Joe E., Charlotte, N. C.

#### EXCAVATING MACHINERY.

Bay City Shovel, Inc., Bay City, Mich.  
Bucyrus-Erie Co., So. Milwaukee, Wis.  
Harnischfeger Corp., Milwaukee, Wis.  
Industrial Brownhoist Corp., Cleveland.  
National Equipment Corp. (Keehring, Insley, Parsons), Milwaukee, Wis.  
Northwest Engineering Co., Chicago, Ill.  
Owen Bucket Co., The, Cleveland, Ohio.  
Thew Shovel Co., The, Lorain, Ohio.

#### EXCAVATORS (Clamshell and Orange Peel.)

Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., Lorain, Ohio.

#### —(Dragline. See Dragline Excavators.)

#### —(Trench.)

Barber-Greene Co., Aurora, Ill.  
Bay City Shovel, Inc., Bay City, Mich.  
Bucyrus-Erie Co., So. Milwaukee, Wis.  
Harnischfeger Corp., Milwaukee, Wis.  
Ohio Power Shovel Co., Lima, Ohio.

#### EXPANSION JOINTS (Road and Street.)

Carey Co., Philip, Lockland, Cincinnati, Ohio.

#### EXPLOSIVES.

De Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

#### FACTORY Management Systems.

Ernst & Ernst, New York, N. Y.

#### FEED-WATER HEATERS and Purifiers.

American Water Softener Co., Phila., Pa.  
International Filter Co., Chicago, Ill.

#### FENCE POSTS (Crossed.)

American Crosscutting Co., Louisville, Ky.  
Ayw & Lord Tie Co., Chicago, Ill.

#### FENCING Entrance Gates (Iron, Steel and Wire.)

American Steel and Wire Co., Balto., Md.  
Cyclone Fence Co., Waukegan, Ill.  
Gulf States Steel Co., Birmingham, Ala.

#### —(Field and Industrial, Wire Weave.)

American Steel and Wire Co., Balto., Md.  
Cyclone Fence Co., Waukegan, Ill.  
Gulf States Steel Co., Birmingham, Ala.

#### FERTILIZER MACHINERY.

Raymond Bros., Impact Pulv. Co., Chicago.

#### FILTER (For Domestic and Industrial Purposes.)

American Water Softener Co., Phila., Pa.  
Bacharach & Co., E. W., Kansas City, Mo.  
International Filter Co., Chicago, Ill.  
Roberts Filter Mfg. Co., Darby (Phila.), Pa.

#### —(Cloth.)

Newark Wire Cloth Co., Newark, N. J.

#### FINANCING.

Electric Bond & Share Co., New York.  
Gay & Co., W. O., New York, N. Y.

#### FIREPROOF Building Material.

Bannon Pipe Co., Louisville, Ky.



**—Doors and Shutters.**

Wilson Corp., The J. G., New York City.

**FITTINGS (Wire Rope.)**American Steel & Wire Co., Chicago, Ill.  
Roebbing's Sons Co., John A., Trenton, N. J.**FLANGES (Iron and Steel.)**Amer. Cast Iron Pipe Co., Birmingham.  
Dart Mfg. Co., E. M., Providence, R. I.  
National Cast Iron Pipe Co., Birmingham, Ala.  
Taylor Forge & Pipe Wks., Chicago, Ill.  
U. S. Pipe & Foundry Co., Burlington, N. J.**—(Swivel.)**

Merco Nordstrom Valve Company, San Francisco, Cal.

**FLOOR (Asphalt Mastic.)**

Barber Asphalt Co., Philadelphia, Pa.

**—(Cork Composition.)**

Congoleum-Natra, Inc., Kearny, N. J.

**—(Hardwood, Maple, Oak.)**

Kirby Lumber Co., Houston, Tex.

**—(Linooleum.)**

Congoleum-Natra, Inc., Kearny, N. J.

**—(Northern Hard Maple.)**

Holt Hardwood Co., Oconto, Wis.

**—(Open Steel.)**Blaw-Knox Co., Pittsburgh, Pa.  
Irving Iron Works Co., Long Is. City, N. Y.  
Kerlow Steel Flooring Co., Jersey City, N. J.**—Covering.**

Congoleum-Natra, Inc., Kearny, N. J.

**—Hardner (Concrete.)**

Sonneborn Sons, Inc., L., New York.

**—Plates and Stair Treads.**

Central Iron &amp; Steel Co., Harrisburg, Pa.

**—Wax.**

Congoleum-Natra, Inc., Kearny, N. J.

**FLUMES.**

Alco Products, Inc., New York, N. Y.

**FLUSH-TANK SIPHONS.**

Pacific Flush-Tank Co., New York, N. Y.

**FORMED PRODUCTS (Roofing.)**

American Rolling Mill Co., Middletown.

**FORMS, Steel (For Concrete Culverts, Roads, Streets, Curbs, Sidewalks, Tiles.)**

Blaw-Knox Co., Pittsburgh, Pa.

**FOUNDRIES and Machine Shops.**General Machine Works, York, Pa.  
Glamorgan Pipe & Fdry. Co., Lynchburg, Va.  
Golden's Fdry. & Mch. Co., Columbus, Ga.  
Lombard Iron Works & Supply Co., Augusta, Ga.  
Mountain State Steel Foundries, Parkersburg, W. Va.  
Richmond Foundry & Mfg. Co., Richmond, Va.  
Savannah Machine & Fdry. Co., Savannah.**FOUNDEY Equipment and Supplies.**

Hill &amp; Griffith Co., Cincinnati, O.

**—Facings (Talc and Soap-stone.)**

Hill &amp; Griffith Co., Cincinnati, O.

**FURNACES (Industrial.)**

Combustion Engr. Corp., New York City.

**—(Water-Cooled.)**Combustion Engr. Corp., New York City.  
Fuller Lehigh Co., Fullerton, Pa.**GALVANIZED Products.**Bessemer Galvanizing Works, Birmingham, Ala.  
Birmingham Galvanizing Co., Birmingham, Ala.  
Cattle & Bros., Jos. P., Philadelphia, Pa.**—Steel and Iron.**American Rolling Mill Co., Middletown, O.  
American Sheet & Tin Plate Co., Pittsburgh, Pa.  
Granite City Steel Co., Granite City, Ill.**GALVANIZING (Cadmium Plating.)**

Birmingham Galvanizing Co., Birmingham, Ala.

**—(Hot Dip.)**Bessemer Galvanizing Works, Birmingham.  
Birmingham Galvanizing Co., Birmingham, Ala.  
Cattle & Bros., Jos. P., Philadelphia, Pa.  
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.**GAS HOLDERS.**Chattanooga Boiler & Tank Co., Chattanooga, Tenn.  
Chicago Bridge & Iron Wks., Birmingham.**—Producers.**Gas-O-Flame Stove Works, Fort Deposit, Md.  
Wood & Co., R. D., Philadelphia, Pa.**GASOLINE and KEROSENE.**

Gulf Refining Co., Pittsburgh, Pa.

**GASOLINE SHOVELS (See Shovels.)****GATES.**

Newport News Shipbuilding &amp; Dry Dock Co., Newport News, Va.

**GEARS.**DeLaval Steam Turbine Co., Trenton, N. J.  
Earle Gear & Machine Co., Phila., Pa.  
General Electric Co., Schenectady, N. Y.**—(Worm Reduction.)**

DeLaval Steam Turbine Co., Trenton, N. J.

**GENERATORS, MOTORS (New.)**General Electric Co., Schenectady, N. Y.  
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.**—(Used.)**O'Brien Machinery Co., Phila., Pa.  
Randle Machinery Co., The, Cincinnati, O.**GEOLOGISTS. (See Engineers Geological.)****GLASS (Art.)**

Hires Turner Glass Co., Philadelphia, Pa.

**—(Plate.)**Hires Turner Glass Co., Philadelphia, Pa.  
Southwestern Sheet Glass Co., Okmulgee, Okla.**—(Window.)**Hires Turner Glass Co., Philadelphia, Pa.  
Pittsburgh Plate Glass Co., Pittsburgh.  
Southwestern Sheet Glass Co., Okmulgee, Okla.**—(Wire.)**Hires Turner Glass Co., Philadelphia, Pa.  
Southwestern Sheet Glass Co., Okmulgee, Okla.**GRADERS (Elevating.)**Adams Co., J. D., Indianapolis, Ind.  
Caterpillar Tractor Co., Peoria, Ill.**—(One Man Motor.)**

Adams Co., J. D., Indianapolis, Ind.

**—(Leaning Wheel Road.)**

Adams Co., J. D., Indianapolis, Ind.

**GRAPHITE.**

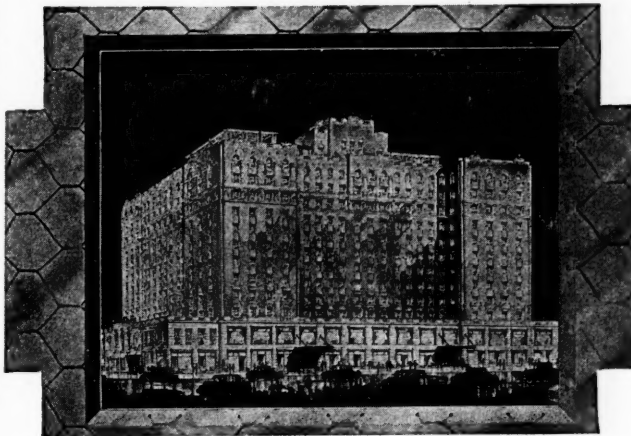
Dixon Crucible Co., Jos., Jersey City, N. J.

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### GRATING (Area, Flooring, Side-walk.)

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Kerlow Steel Flooring Co., Jersey City, N. J.

### GRAVEL (Roofing and Road.)

American Limestone Co., Knoxville, Tenn.  
Arundel Corp., The, Baltimore, Md.  
Boxley & Co., W. W., Roanoke, Va.  
Friend & Co., Inc., Petersburg, Va.  
Georgia Sand & Gravel Co., Augusta, Ga.

### GREASE CUPS.

Lunkenheimer Co., The, Cincinnati, O.

### GRILLES (Brass, Bronze, Steel, etc.)

Manhattan Perforated Metal Co., Inc.,  
Long Island City, N. Y.

### GRINDERS (Gypsum, Limestone, etc.)

Raymond Bros. Impact Pulv. Co., Chicago.

### —Wheels.

Carborundum Co., Niagara Falls, N. Y.

### GUARD RAIL (Road.)

National Traffic Guard Co., Atlanta.

### GUNITE CONSTRUCTION

Cement-Gun Co., Inc., Allentown, Pa.  
Cement Gun Construction Co., Chicago.  
Gunite Conc. & Constr. Co., Kansas City.  
Gunite Constr. Co., New York City.  
Rust Engineering Co., Birmingham, Ala.

### GUNPOWDER.

Du Pont de Nemours & Co., Inc., E. I.,  
Wilmington, Del.

### GUNS (Hydraulic.)

Georgia Iron Works, Augusta, Ga.

### HANGARS (Airplane.)

Blaw-Knox Co., Pittsburgh, Pa.  
Ingalls Iron Works, Birmingham, Ala.

### HARBOR IMPROVEMENTS.

Arundel Corp., Baltimore, Md.  
Atlantic Gulf & Pacific Co., New York.

### HEATERS (Asphalt.)

Honhorst Co., Jos., Cincinnati, O.

### HEAT EXCHANGERS.

Alco Products, Inc., New York, N. Y.

### HEATING Apparatus (Engineers and Contractors.)

Poe Piping & Heating Co., Greenville, S. C.

### HOISTS (Chain.)

Wright Mfg. Co., Bridgeport, Conn.

### —(Electric.)

Harnischfeger Corp., Milwaukee, Wis.  
Street Bros. Mch. Wks., Chattanooga, Tenn.

### —(Gasoline.)

Duke Engine Co., Grand Haven, Mich.  
National Equipment Corp. (C. H. & E. Division), Milwaukee, Wis.  
Street Bros. Mch. Wks., Chattanooga, Tenn.

### —(Steam.)

Duke Engine Co., Grand Haven, Mich.  
Street Bros. Mch. Wks., Chattanooga, Tenn.

### HOOPS, Bands, etc. (Galvanized.)

Connors Steel Co., Birmingham, Ala.

### HOPPERS (Aggregate, Measuring and Weighing.)

Blaw-Knox Co., Pittsburgh, Pa.  
Butler Bin Co., Waukesha, Wis.

### HOTELS.

Heiss Hotel Systems, St. Louis, Mo.  
Southern Hotel, The, Baltimore, Md.

### HOUSE MOVING.

Sichleay, Jr., Co., John, Pittsburgh.

### HUMIDIFYING AND DRYING EQUIPMENT.

Niagara Blower Co., New York, N. Y.

### HYDRANTS (Fire.)

Ludlow Valve Mfg. Co., The, Troy, N. Y.  
Myers & Bro. Co., The, F. E., Ashland, O.  
Wood & Co., E. D., Philadelphia, Pa.

### HYDRO - ELECTRIC POWER COMPANIES (Offering Industrial and Commercial Opportunities.)

Alabama Power Co., Birmingham, Ala.  
Crisp County Power Commission, Cordele, Ga.  
Georgia Power Co., Atlanta, Ga.  
Texas Power & Light Co., Dallas, Texas.

### INCINERATORS

Goder, Joseph, Chicago, Ill.

### INCORPORATORS.

Delaware Registration Trust Co., Wilmington, Del.

### INSULATING BOARD.

Armstrong Cork & Insulation Co., Lancaster, Pa.  
United Cork Companies, Lyndhurst, N. J.

### —Materials.

General Electric Co., Schenectady, N. Y.

### —Quilt.

Cabot, Inc., Samuel, Boston, Mass.

### INVESTMENT SECURITIES.

Electric Bond & Share Co., New York.  
Gay & Co., W. O., New York City.  
Hanchett Bond Co., Inc., The, Chicago, Ill.  
Nurem & Co., John, Chicago.  
Provident Savings Bank & Trust Co., Cincinnati, Ohio.  
Whiting & Co., Inc., P. H., New York City.

### IRON.

Oliver Iron & Steel Corp., Pittsburgh, Pa.  
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

### —(Ingot, For Culverts, etc.)

American Rolling Mill Co., Middletown, O.

### JAIL CELLS

Roanoke Iron & Bridge Wks., Roanoke, Va.

### JOINTS (Pipe.)

Leadite Co., Philadelphia, Pa.

### KETTLES (Pavers and Roofers.)

Honhorst Co., Jos., Cincinnati, O.

### KILNS (Cement.)

Alco Products, Inc., New York, N. Y.

### —(Drying Lumber.)

Moore Dry Kiln Co., Jacksonville, Fla.

### LADDERS (Rolling.)

Myers & Bro. Co., The, F. E., Ashland, O.

### LAMPS (Incandescent.)

Western Electric Co., New York City.  
Westinghouse Lamp Co., New York City.

### LATHES.

Sebastian Lath Co., Cincinnati, Ohio.

### LIGHTING (Factory and Mill.)

Westinghouse Lamp Co., New York City.

### —Fixtures (Electric.)

Western Electric Co., New York City.  
Westinghouse Lamp Co., New York City.

### LIGHTS (Contractors.)

Toledo Pressed Steel Co., Toledo, Ohio.

### LININGS (Flue, Fire Clay.)

Lee Clay Products Co., Clearfield, Ky.  
Owensboro Sewer Pipe Co., Owensboro, Ky.

### —(Tube Mill.)

Fuller Lehigh Co., Fullerton, Pa.



**LINOLEUM (Battleship, Embossed Inlaid, Inlaid, Jaspe.)**  
Congoleum-Nairn, Inc., Kearny, N. J.

**LITHOGRAPHERS and ENGRAVERS.**  
Smith & Son Co., Oscar T., Baltimore, Md.  
Young & Selden Co., Baltimore, Md.

**LOADING and UNLOADING MACHINERY (Portable.)**  
Barber-Greene Co., Aurora, Ill.  
Northwest Engineering Co., Chicago, Ill.

**LOCOMOTIVES (Compressed Air.)**  
Porter Co., H. K., Pittsburgh, Pa.

**—(Fireless Stored Steam.)**  
Porter Co., H. K., Pittsburgh, Pa.

**—(Gasoline.)**  
Porter Co., H. K., Pittsburgh, Pa.

**—(Industrial.)**  
Porter Co., H. K., Pittsburgh, Pa.  
Southern Iron & Equipment Co., Atlanta.

**—(Mining.)**  
Porter Co., H. K., Pittsburgh, Pa.

**—(Railway.)**  
Porter Co., H. K., Pittsburgh, Pa.  
Southern Iron & Equipment Co., Atlanta.

**LUBRICANTS.**  
Dixon Crucible Co., Jos., Jersey City, N. J.  
Gulf Refining Co., Pittsburgh, Pa.

**LUBRICATORS (Force Feed.)**  
Lunkenheimer Co., The, Cincinnati, O.

**LUMBER (Celling, Flooring, Siding.)**  
Jackson Lumber Co., Lockhart, Ala.  
Kirby Lumber Co., Houston, Texas.

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Randle Machinery Co., The, Cincinnati, O.  
Zelnicker Supply Co., W. A., St. Louis.

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Sebastian Lath Co., Cincinnati, Ohio.

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**—(Plaster.)**  
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Jaeger Machine Co., Columbus, Ohio.

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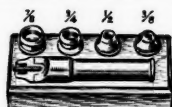
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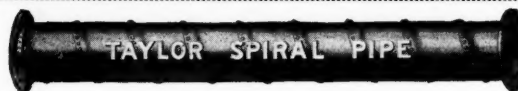
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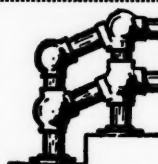
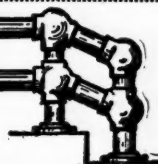
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Federal-American Cement Tile Co., Chicago.**RULES (Steel.)**  
Lufkin Rule Co., Saginaw, Mich.**SAFES.**  
York Safe & Lock Co., York, Penna.**SAND.**  
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Erdle Perforating Co., Rochester, N. Y.  
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Lee Clay Products Co., Clearfield, Ky.  
Owensboro Sewer Pipe Co., Owensboro, Ky.**—Pipe Machinery (Concrete.)**  
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Ryerson & Sons, Inc., Jos. T., St. Louis and New York.**—Material (Tubular.)**  
National Tube Co., Pittsburgh, Pa.**SHARPENING Stones.**  
Carborundum Co., Niagara Falls, N. Y.**SHEET Metal Working Machinery.**  
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Yoder Co., The, Cleveland, Ohio.**—Steel and Iron.**  
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Bethlehem Steel Co., Bethlehem, Pa.  
Granite City Steel Co., Granite City, Ill.  
Gulf States Steel Co., Birmingham, Ala.  
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Youngstown Sheet & Tube Co., Youngstown, O.**SHEETS (Asbestos.)**  
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American Sheet & Tin Plate Co., Pittsburgh, Pa.**SHINGLES (Asbestos.)**  
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Bucyrus-Erie Co., So. Milwaukee, Wis.  
Harnischfeger Corp., Milwaukee, Wis.  
Industrial Brownhoist Corp., Cleveland, O.  
National Equipment Corp., (Koehring, Insley), Milwaukee, Wis.  
Northwest Engineering Co., Chicago, Ill.  
Ohio Power Shovel Co., Lima, Ohio.  
Thew Shovel Co., The, Lorain, Ohio.**SHUTTERS (Steel.)**  
Merchant & Evans Co., Philadelphia, Pa.**SIEVES (Testing.)**  
Newark Wire Cloth Co., Newark, N. J.**SIGNALS (Danger.)**  
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Brown & Co., Chattanooga, Tenn.  
Central of Georgia Rwy., Savannah, Ga.  
Crisco County Power Commission, Cordele, Ga.



Galveston, City of, Galveston, Texas.  
Georgia Power Co., Atlanta, Ga.  
Missouri-Kansas-Texas Lines, Dallas, Tex.  
Model Land Company, (Flagler System),  
St. Augustine, Fla.  
Norfolk & Western Railway, Roanoke, Va.  
Parkersburg, W. Va., Board of Com-  
merce.  
Reynolds Bros. Lbr. Co., Albany, Ga.  
Southern Natural Gas Corp., Birmingham.  
Tennessee Central Railway, Nashville.  
Texas Power & Light Co., Dallas, Texas.

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#### —(Concrete Roof.)

Federal-American Cement Tile Co., Chicago.

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Woodstock Slag Corp., Birmingham, Ala.

#### —(Furnace.)

Woodstock Slag Corp., Birmingham, Ala.

#### SLINGS (Chain.)

Woodhouse Chain Works, Trenton, N. J.

#### —(Wire Rope.)

American Steel & Wire Co., Chicago, Ill.

Boehling's Sons Co., John A., Trenton, N. J.

#### SLUICE GATES AND APPLI- ANCES.

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Earle Gear & Mach. Co., Phila., Pa.

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Sweet's Steel Co., Williamsport, Pa.

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#### —(Wire—All Kinds.)

American Steel & Wire Co., Baltimore, Md.

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Southern Automatic Sprinkler Co.,  
Birmingham.

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Chattanooga Boiler & Tank Co., Chatta-  
nooga, Tenn.

Chicago Bridge & Iron Wks., Birmingham.

Downingtown Iron Works, Downingtown, Pa.

Hedges Walsh Weldner Co., Chatta-  
nooga, Tenn.

Ingalls Iron Works Co., Birmingham, Ala.

Lombard Iron Works & Supply Co., Au-  
gusta, Ga.

Pittsburgh-Des Moines Steel Co., Pitts-  
burgh, Pa.

Schofield's Sons Co., J. S., Macon, Ga.

U. S. Pipe & Foundry Co., Burlington, N. J.

Virginia Bridge & Iron Co., Roanoke, Va.

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Irving Iron Works Co., Long Is. City, N. Y.

#### —Treads.

Central Iron & Steel Co., Harrisburg, Pa.

Ryerson & Son, Inc., Jos. T., St. Louis  
and New York.

#### STANDPIPES.

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nooga, Tenn.

Chicago Bridge & Iron Wks., Birmingham.

Pittsburgh-Des Moines Steel Co., Pitts-  
burgh, Pa.

#### STATIONERS (Envelopes, Letter and Billheads, etc.)

Smith & Son Co., Oscar T., Baltimore, Md.

Yeung & Selden Co., Baltimore, Md.

#### STEAM (Specialties.)

Lunkenheimer Co., The, Cincinnati, O.

Mueller Co., Decatur, Ill.

#### STEEL.

Bethlehem Steel Co., Bethlehem, Pa.

Central Iron & Steel Co., Harrisburg, Pa.

Dietrich Brothers, Baltimore, Md.  
Gulf States Steel Co., Birmingham, Ala.  
Jones & Laughlin Steel Corp., Pitts-  
burgh, Pa.  
Oliver Iron & Steel Corp., Pittsburgh, Pa.  
Ryerson & Son, Inc., Jos. T., St. Louis  
and New York.  
Tennessee Coal, Iron & Railroad Co., Bir-  
mingham, Ala.  
Virginia Bridge & Iron Co., Roanoke, Va.

#### —(Alloy.)

Timken Roller Bearing Co., Canton, Ohio

#### —(Cold Rolled.)

American Steel & Wire Co., Balto., Md

#### —(Fabricators.)

United Welding Co., Middletown, O.

#### —(Special Analysis.)

Timken Roller Bearing Co., Canton, Ohio

#### —(Tool, High Speed.)

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Carolina Steel & Iron Co., Greensboro, N. C.

Eichleay, Jr., Co., John, Pittsburgh, Pa.

Ingalls Iron Works Co., Birmingham, Ala.

McClintic-Marshall Co., Pittsburgh, Pa.

Phoenix Iron Co., The, Phila., Pa.

Pittsburgh-Des Moines Steel Co., Pitts-  
burgh, Pa.

Virginia Bridge & Iron Co., Roanoke, Va.

#### —Forms (Curb, Gutter, Side- walk, Road.)

Blaw-Knox Co., Pittsburgh, Pa.

#### —Plate Construction (Riveted or Welded.)

Birmingham Boiler & Engr. Co., Bir-  
mingham, Ala.

Birmingham Tank Co., Birmingham.

Bristol Steel & Iron Works, Inc., Bris-  
tol, Va.

Carolina Steel & Iron Co., Greensboro, N. C.

Central Iron & Steel Co., Harrisburg, Pa.

Chattanooga Boiler & Tank Co., Chatta-  
nooga, Tenn.

Chicago Bridge & Iron Wks., Birmingham.

Combustion Engr. Corp., New York City.

Hedges Walsh Weldner Co., Chatta-  
nooga, Tenn.

Ingalls Iron Works Co., Birmingham, Ala.

Lancaster Iron Works, Inc., Lancaster, Pa.

Phoenix Iron Co., The, Phila., Pa.

Pittsburgh-Des Moines Steel Co., Pitts-  
burgh, Pa.

Schofield's Sons Co., J. S., Macon, Ga.

Taylor Engr. & Mfg. Co., Allentown, Pa.

United Welding Co., Middletown, O.

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Alco Products, Inc., New York City.

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Alabama Stoker & Boiler Co., Birming-  
ham, Ala.

Babcock & Wilcox Co., The, New York

Combustion Engr. Corp., New York City

Detroit Stoker Company, Detroit, Mich.

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Electric Storage Battery Co., Philadelphia

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Blaw-Knox Co., Pittsburgh, Pa.

Butler Bin Co., Waukesha, Wis.

#### STRINGERS (Bridge-Creosoted.)

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Belmont Iron Works, Philadelphia, Pa.

Bristol Steel & Iron Works, Inc., Bris-  
tol, Va.

Carnegie Steel Co., Pittsburgh, Pa.

Carolina Steel & Iron Co., Greensboro, N. C.

Chattanooga Boiler & Tank Co., Chatta-  
nooga, Tenn.

Converse Bridge & Steel Co., Chatta-  
nooga, Tenn.

Dietrich Brothers, Baltimore, Md.

Eichleay, Jr., Co., John, Pittsburgh

Ingalls Iron Works Co., Birmingham Ala.

Jones & Laughlin Steel Corp., Pitts-  
burgh, Pa.

McClintic-Marshall Co., Pittsburgh, Pa.

Phoenix Iron Co., The, Phila., Pa.

Pittsburgh-Des Moines Steel Co., Pitts-  
burgh, Pa.

Roanoke Iron & Bridge Works Inc.

Roanoke, Va.

Ryerson & Son, Inc., Jos. T., St. Loui-  
and New York.

Sneed Architectural Iron Works Loui-  
ville, Ky.

Southern Engineering Co., Charlotte, N. C.

Tennessee Coal, Iron & Railroad Co.

Birmingham, Ala.

Virginia Bridge & Iron Co., Roanoke, Va.

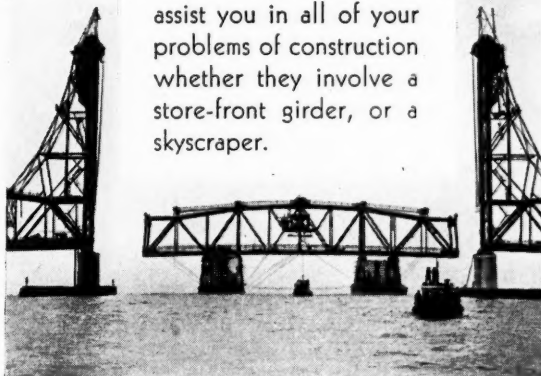
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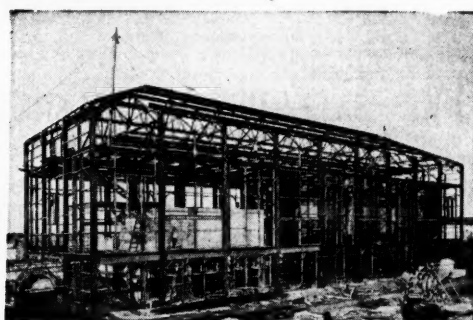


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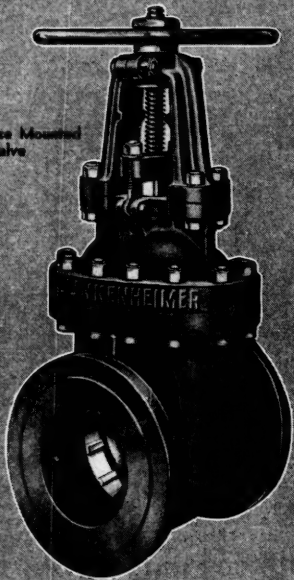
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Mass.  
Technical Service Co., New York, N. Y.

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—(Quantity.)  
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Federal-American Cement Tile Co., Chicago.

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Weber Co., Inc., F., Philadelphia, Pa.

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Congoalum-Nairn, Inc., Kearny, N. J.

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—(Cork Flooring.)  
Congoalum-Nairn, Inc., Kearny, N. J.  
United Cork Companies, Lyndhurst, N. J.

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ETC.**

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General Electric Co., Schenectady, N. Y.  
Westinghouse Elec. & Mfg. Co., E. Pitts-  
burgh, Pa.

—(Roof.)  
Hood Co., B. Mifflin, Dalsey, Tenn.

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Ernst & Ernst, New York, N. Y.  
May, Inc., Geo. S., Chicago, Ill.

—(Sewer.)  
Lee Clay Products Co., Clearfield, Ky.

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Air-Tight Steel Tank Co., Pittsburgh, Pa.  
Titusville Iron Works Co., Titusville, Pa.

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Amer. Creosoting Co., Inc., Louisville, Ky.

—(Elevated Steel.)  
Caldwell Co., Inc., W. E., Louisville, Ky.  
Chattanooga Boiler & Tank Co., Chat-  
tanooga, Tenn.  
Chicago Bridge & Iron Wks., Birmingham.  
Cole Mfg. Co., R. D., Newnan, Ga.  
Pittsburgh-Des Moines Steel Co., Pitts-  
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Schofield's Sons Co., J. S., Macon, Ga.  
Virginia Bridge & Iron Co., Roanoke, Va.

**TIN AND TERNE PLATES.**  
American Sheet & Tin Plate Co., Pitts-  
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Bethlehem Steel Co., Bethlehem, Pa.  
Granite City Steel Co., Granite City, Ill.  
Youngstown Sheet & Tube Co., Youngs-  
town, Ohio.

—(Elevated Wood.)  
Caldwell Co., Inc., W. E., Louisville, Ky.  
Davis & Son, G. M., Palatka, Fla.

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Ripley Foundry & Machine Co., Ripley, O.

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Air-Tight Steel Tank Co., Pittsburgh, Pa.  
American Bridge Co., New York, N. Y.  
Birmingham Tank Co., Birmingham, Ala.  
Chattanooga Boiler & Tank Co., Chat-  
tanooga, Tenn.

**TOOLS (Measuring.)**  
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Chicago Bridge & Iron Wks., Birmingham.  
Cole Mfg. Co., R. D., Newnan, Ga.  
Downingtown Iron Works, Downingtown, Pa.  
Lancaster Iron Works, Inc., Lancaster, Pa.  
Leonard Iron Works & Supply Co., Au-  
gusta, Ga.  
McClintic-Marshall Co., Pittsburgh, Pa.  
Pittsburgh-Des Moines Steel Co., Pitts-  
burgh, Pa.  
Schofield's Sons Co., J. S., Macon, Ga.  
Titusville Iron Works Co., Titusville, Pa.  
Virginia Bridge & Iron Co., Roanoke, Va.  
Westinghouse Traction Brake Co., Wil-  
merding, Pa.

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—Mixing.  
Alco Products, Inc., New York, N. Y.

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sion.)**  
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Bessemer Galvanizing Works, Birmingham.

—(Pressure.)  
Air-Tight Steel Tank Co., Pittsburgh, Pa.  
Newport News Shipbuilding & Dry Dock  
Co., Newport News, Va.

—(Radio.)  
Bessemer Galvanizing Works, Birmingham

—(Seamless Steel.)  
Air-Tight Steel Tank Co., Pittsburgh, Pa.  
National Tube Co., Pittsburgh, Pa.

—(Steel and Wood.)  
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tanooga, Tenn.  
Cole Mfg. Co., R. D., Newnan, Ga.

—(Storage, Oil, etc.)  
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Birmingham Boiler & Engr. Co., Bir-  
mingham, Ala.  
Chattanooga Boiler & Tank Co., Chat-  
tanooga, Tenn.  
Chicago Bridge & Iron Wks., Birmingham.  
Downingtown Iron Works, Downingtown, Pa.  
Ingalls Iron Works Co., Birmingham, Ala.  
Pittsburgh-Des Moines Steel Co., Pitts-  
burgh, Pa.  
Titusville Iron Works Co., Titusville, Pa.  
United Welding Co., Middletown, O.

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Sweet's Steel Co., Williamsport, Pa.

—(Welded.)  
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Caterpillar Tractor Co., Peoria, Ill.  
Clark Tractor Co., Battle Creek, Mich.  
Cleveland Tractor Co., Cleveland, Ohio.  
International Harvester Co. of America,  
Inc., Chicago, Ill.

—(Wood.)  
Caldwell Co., Inc., W. E., Louisville, Ky.  
Davis & Son, G. M., Palatka, Fla.  
Virginia Mch. & Well Co., Richmond, Va.

—(Road.)  
Allis-Chalmers Mfg. Co., Milwaukee, Wis.  
Caterpillar Tractor Co., Peoria, Ill.  
Cleveland Tractor Co., Cleveland, Ohio.

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Lufkin Rule Co., Saginaw, Mich.

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Duty.)**  
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**TARPAULINS.**  
Fulton Bag & Cotton Mills, Atlanta, Ga.

**TEAMWAYS, (Aerial Wire Rope.)**  
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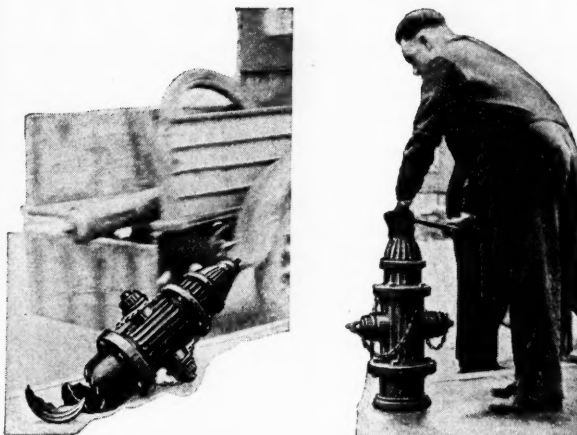
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General Electric Co., Schenectady, N. Y.  
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Timken Rolling Bearing Co., Canton, O.**TURBINES (Deep Well.)**  
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General Electric Co., Schenectady, N. Y.  
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Dart Mfg. Co., E. M., Providence, R. I.**—VALVES.**  
Ludlow Valve Mfg. Co., The, Troy, N. Y.  
Lunkenshelmer Co., The, Cincinnati, Ohio.  
Marco Nordstrom Valve Co., San Francisco, Cal.  
Mueller Co., Decatur, Ill.  
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.  
Westinghouse Traction Brake Co., Wilmerding, Pa.**—(Acid Proof.)**  
Lunkenshelmer Co., The, Cincinnati, Ohio.**—(Gate.)**  
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Wood & Co., E. D., Philadelphia, Pa.**VAULTS (Bank and Safe Deposit.)**  
York Safe & Lock Co., York, Penna.**VENTILATORS (Roof.)**  
Merchant & Evans Co., Philadelphia, Pa.**WARDROBES (Hygienic, School.)**  
Wilson Corp., The J. G., New York.**WATCHMAN'S PORTABLE CLOCKS.**  
Davis-Paradis Watchman's Clock Corp., New York, N. Y.**WATERPROOFING (For Brick, Concrete, Granite.)**  
Headley Emulsified Products Co., Philadelphia, Pa.  
Sonneborn, Sons, Inc., L., New York.**WATER Purification.**  
Becharach & Co., E. W., Kansas City, Mo.  
Roberts Filter Mfg. Co., Darby (Phila.), Pa.**—Softening Apparatus (Purifying.)**  
American Water Softener Co., Phila., Pa.  
International Filter Co., Chicago, Ill.**—Well Supplies.**  
Cook, Inc., A. D., Lawrenceburg, Ind.**—Works Supplies and Appliances.**Amer. Cast Iron Pipe Co., Birmingham.  
Cast Iron Pipe Research Assn., Chicago.  
Glamorgan Pipe & Fdry. Co., Lynchburg, Va.  
Leadite Co., Philadelphia, Pa.  
Mueller Co., Decatur, Ill.  
U. S. Pipe & Foundry Co., Burlington, N.J.  
Wood & Co., E. D., Philadelphia, Pa.**WELDING APPARATUS (Electric Arc.)**  
General Electric Co., Schenectady, N. Y.  
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.**WELL CONTRACTORS (Oil, Artesian, etc.)**  
Petersburg Mchry. Pump & Well Co., Petersburg, Va.  
Virginia Machy. & Well Co., Richmond, Va.**WELL STRAINERS (Brass.)**  
Cook, Inc., A. D., Lawrenceburg, Ind.**WHEELS AND AXLES.**  
Carnegie Steel Co., Pittsburgh, Pa.**WINDOW Frames and Sash (Metal.)**  
Bayley Co., The William, Springfield, O.  
Truscon Steel Co., Youngstown, Ohio.**WINDOWS (Bronze Casement.)**  
Michaels Art Bronze Co., Covington, Ky.**—(Steel Basement, Casement.)**  
Bayley Co., The William, Springfield, O.**—(Steel Pivoted, Screened.)**  
Bayley Co., The William, Springfield, O.**—(Ventilating.)**  
Bayley Co., The William, Springfield, O.**WIRE (All Kinds.)**  
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Jones & Laughlin Steel Corp., Pittsburgh, Pa.  
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Roebbing's Sons Co., John A., Trenton, N.J.  
Seneca Wire & Mfg. Co., Fostoria, Ohio.**ZINC CHLORIDE.**  
Grasselli Chemical Co., Inc., Birmingham.**ZINC META ARSENITE (Wood Preservative.)**  
Curtin-Howe Corp., New York City.  
Gulf States Creos. Co., Hattiesburg, Miss.**TWENTY MINUTES**  
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**MODERNIZED**  
**HYDRANT**

Reg. U. S. Patent Office

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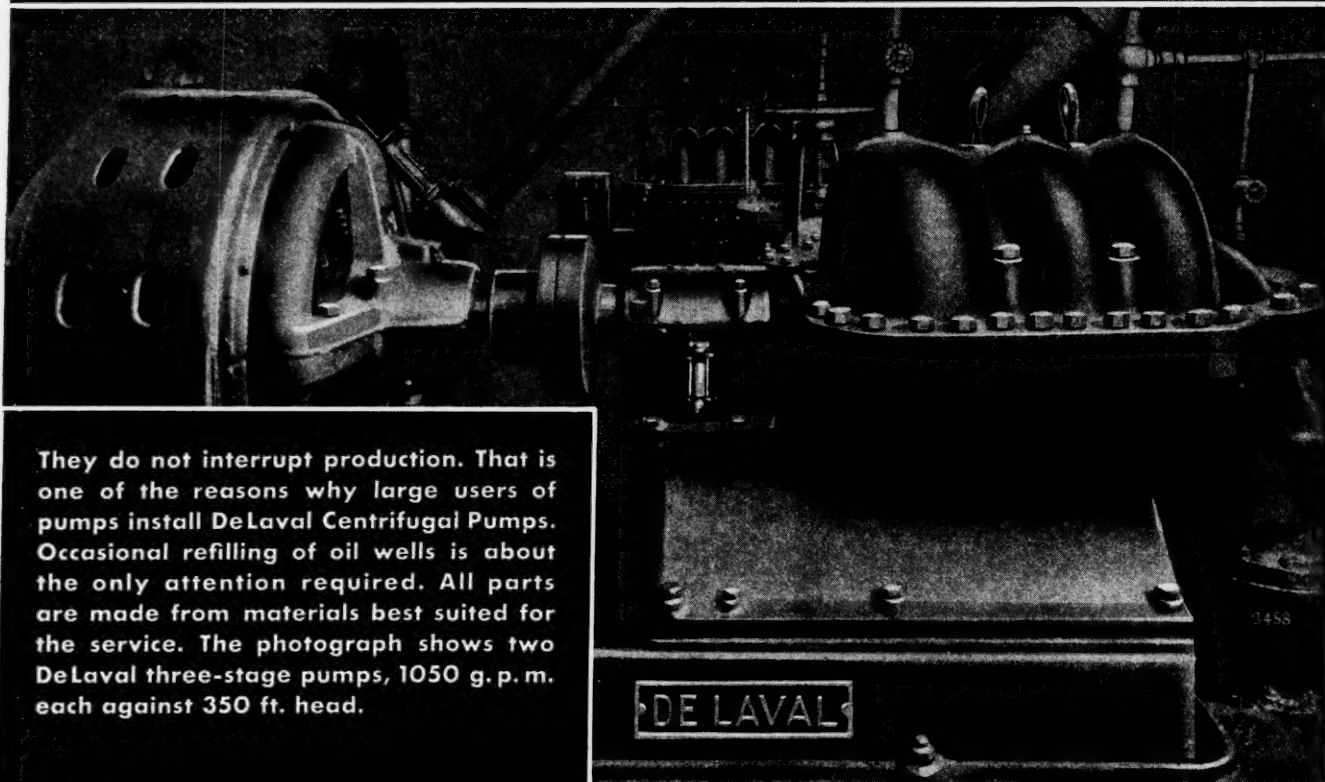
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and cement mortar with com-  
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or Contracting Department for  
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click or ping. This assures a  
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a smooth fast pick up—makes  
traffic a pleasure.

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At the  
Sign of  
the  
Orange  
Disc

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gives it an instant vaporizing  
quality for quick easy starting  
on coldest days.

**GULF REFINING CO.**



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Advs. marked \* appear every other week.

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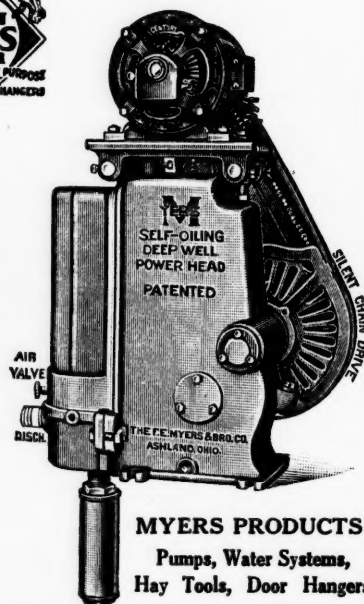
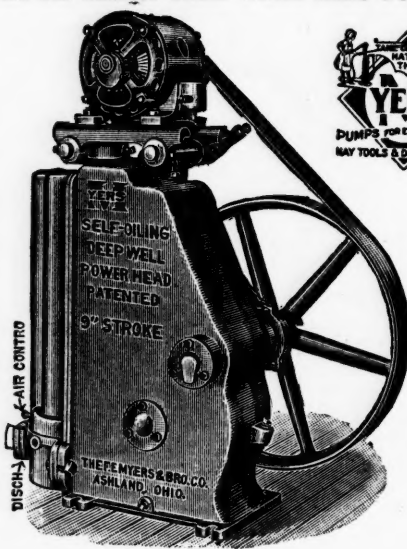
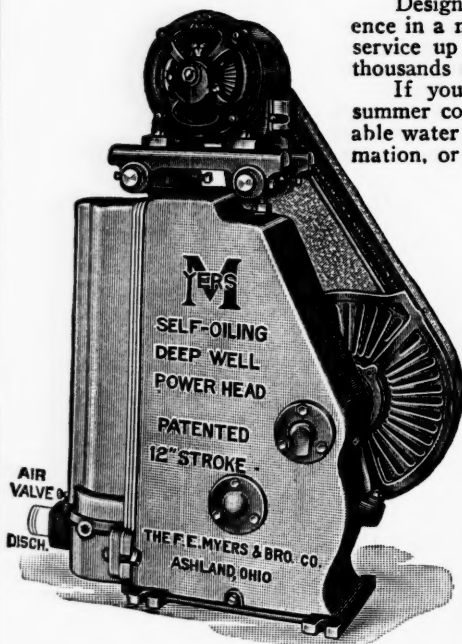
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## MYERS SELF-OILING POWER PUMPS

FOR GENERAL SERVICE

Designed by pump engineers of long experience, built by pump experts of long experience in a modern pump factory, Myers Self-Oiling Power Pumps in styles and sizes for service up to ten thousand gallons of water per hour have a world wide sale through thousands of reliable dealers and distributors.

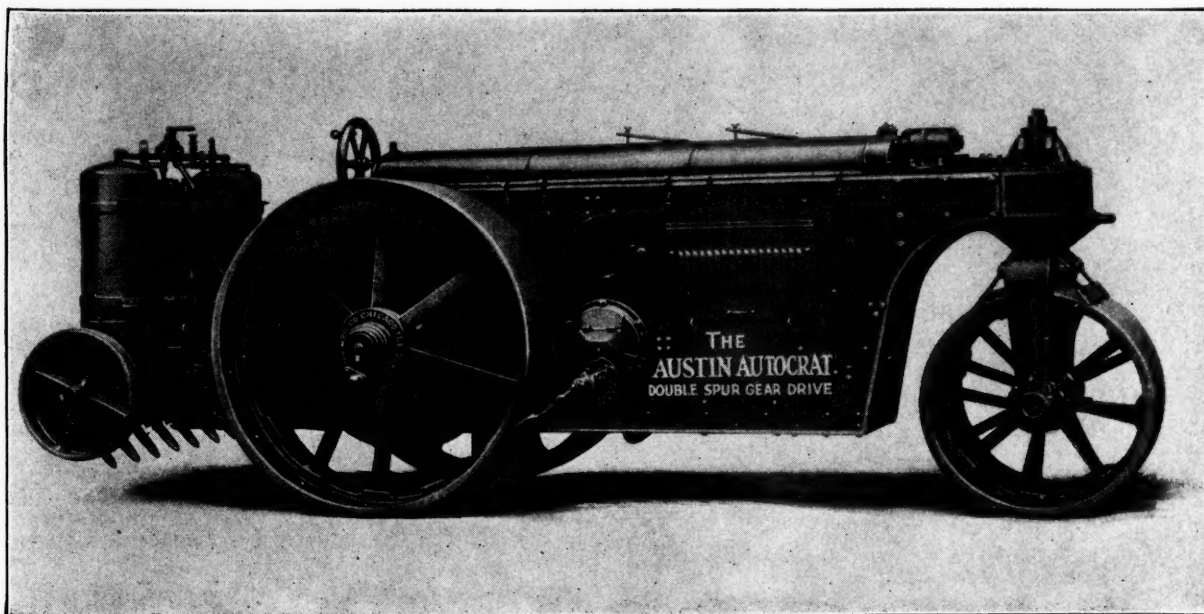
If you have water problems to solve at your country or suburban home, at your summer cottage or camp, at your mill, mine or factory or any other place where dependable water service is essential, write us for a copy of our late catalog and complete information, or visit our nearest dealer whose name we will be glad to give you on request.



**THE F. E. MYERS & BRO. CO.**  
ASHLAND, OHIO  
ASHLAND PUMP AND HAY TOOL WORKS

**MYERS PRODUCTS:**  
Pumps, Water Systems,  
Hay Tools, Door Hangers





Double Spur Gear Drive Autocrat with powerful pneumatic scarifier

There's a practical reason why every AUTOCRAT feature means better rolling results!

The new Austin Double Spur Gear Drive Autocrat Roller has established the Autocrat name more firmly than ever at the head of the list of fine performing rollers.

No expense has been spared to make it the *finest roller in the world!*

The startling improvements and refinements found in the new Autocrat are but natural results of the *highest standard of material and workmanship* ever put into a roller. A higher *factor of safety* has also been obtained. The normal life of the new Autocrat is *years* beyond that of ordinary rollers.

#### Outstanding features

The new Austin Autocrat is now equipped with a double spur gear drive of *exceptional efficiency*. A differential gear is regular equipment on all models.

The heavy-duty motor develops abundant power for rolling, and the *toughest* scarifying jobs. An unusually short wheel-base increases maneuverability in close quarters. Amazingly easy to steer and handle! Low center of gravity *insures* smooth work and *prevents* side sway. Two speeds forward and reverse! Shifts from forward to reverse *without changing gears* or releasing master clutch!

#### Send for booklet

The Autocrat is made in 10 and 12-ton sizes. Write for descriptive literature for your files. The Austin-Western Road Machinery Co., 400 N. Michigan Ave., Chicago. Branches in principal cities.

#### Other Austin Rollers *include:*

*The Austin Cadet*, a completely factory-built roller, brings to the small, or pup roller field, convenient operating features heretofore available only in the finest of the large rollers. Special transmission gives 3 traveling speeds forward and reverse. A 4-cylinder, heavy-duty motor provides ample power for rolling, leveling and scarifying. Comes in 5, 6 and 7-ton sizes.

*An Austin Pup Roller* with a Case Model "CI" Power Plant.

*An Austin Bull Pup Roller* with Center Planing Blade and Rear Scarifier.

*An Austin 4-Cylinder Tandem Roller.*

# Austin-Western

## ROAD MACHINERY

The Thew Center Drive Principle is incorporated in the Shovel Boom and Crawler Mounting of the UNIVERSAL 35



## *The* **1/2 Yard Machine** *that GETS RESULTS*

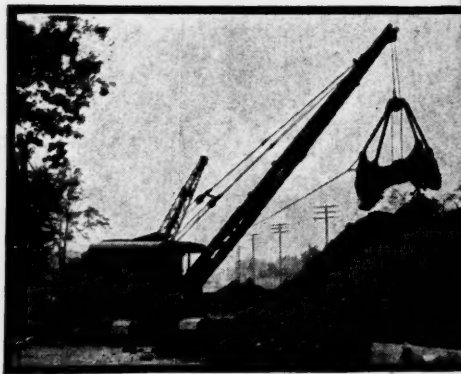
It is a busy little half-yarder—the Universal 35. In North Carolina it unloads 900 tons of steel forms, girders and beams in ten hours.

Up North, handling shale and loam on a shallow excavation, it loads 400 yards in the same length of time.

It is designed for quick changes of boom equipment suitable for all types of digging, loading, and material handling jobs. Here is one machine that practically keeps itself busy. May we send you a complete description? Write to:

**THE UNIVERSAL CRANE COMPANY**  
*or*  
**THE THEW SHOVEL COMPANY**  
Lorain, Ohio.

# UNIVERSAL-35



**Southeast Sales Office:**  
1514-13 Williams Oliver Bldg., Atlanta, Ga.

**Southwest Sales Office:**  
1415 Magnolia Bldg., Dallas, Texas



